

Guidelines for the Review of Environmental Impact Assessments

Sustainable Development?



Work on the production of these guidelines has been led by Sida's Environment Policy Division. The text has been produced in cooperation with Sida's EIA-helpdesk at the Swedish EIA-centre at the Swedish University of Agricultural Sciences, with contributions from Stockholm Environment Institute, Milvus Consulting and Albaeco. Scribimus has edited the text.

This is a living document that will be revised as and when the need arises. The Environment Policy Division would therefore be pleased to receive comments and suggestions for improvements.

Sida's staff are welcome to contact Sida's EIA-helpdesk (sida-mkbhelp@slu.se) if they have any questions on EIAs and the review of EIAs.

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EIA – a tool for sustainable development and poverty reduction

Poverty reduction will only be possible in the long term, if consideration is given to the natural resources and the environment that people are dependent on and base their livelihoods on. This has been accepted and understood at Sida for many years. At the same time, environmental issues are complex and often intangible and methods and skills are therefore needed to analyse the links between the environment and development.

Making EIAs, environmental impact assessments, is one of the most important methods for reviewing environmental aspects of development projects – and thereby determining whether proposed projects contribute to or counteract sustainable development – and they shall therefore be made for all Sida's contributions.

Sida has worked with EIAs since 1991, and has gradually acquired experience and developed its use of EIAs over the years. Sida's most recent experience has been incorporated in these guidelines where we have tried to create a flexible working tool for Sida's programme officers. In the guidelines we have also tried to clarify the links between environmental issues and social and economic development issues. It is our hope that the guidelines will also be of assistance in the dialogue between Sida and its partners in cooperation.

Three important factors to bear in mind:

1. All Sida's contributions shall include an EIA.
2. Flexibility is maximal – the EIA shall be adapted to the contribution.
3. Both positive and negative environmental aspects shall be taken into consideration.

Mats Segnestam

Head of the Environment Policy Division, Sida

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The background of the entire page is a solid yellow color. Overlaid on this background are several stylized sunburst or star-like shapes. These shapes are created with thick black outlines. Some shapes have a solid black circular center, while others have a white circular center. The rays of these shapes are of varying lengths and angles, creating a dynamic, abstract pattern.

EIAs in Sida's work

EIAs in Sida's work

An environmental impact assessment shall be part of the documentation on which decisions are based for all activities supported by Sida. This is stated in "Sida's regulation for environmental impact assessments in development cooperation", which can be found on page #. The regulation also states, among other things, that it is the responsibility of the partner in cooperation (implementing organisation) to make the EIA. Sida's role is to review the EIA and to provide support.

The primary aim of these guidelines¹ is to assist programme officers at Sida to review EIAs. However, since both reviewing and making an EIA are based on the same concept, most of what is said about reviewing EIAs is also applicable to making EIAs. Therefore, these guidelines can also be of use to partners in cooperation who can obtain a picture of Sida's intentions regarding EIAs, Sida's requirements in this connection and, not least, general knowledge about EIAs.

The structure of the guidelines

The guidelines are divided into three parts.

Part 1 review – projects, constitutes the guidelines. It consists of an introductory text on the review of EIAs and references to appendix 1, which consists of two types of question lists, one with general questions, which shall be taken into consideration in all EIA reviews, regardless of their focus, and one with specific area questions, which is broken down on the basis of different types of projects for example in the areas of industry, humanitarian assistance and coastal zone activities. There are seventeen lists of specific area questions to choose between. In essence, it is intended that a complete review should always start with the general questions and then proceed to the relevant specific area – in some cases to several areas.

Part 2 review – sectors and regional programmes describes how environmental issues in development cooperation are handled at the strategic level when major regional programmes or sectors are the subjects of development cooperation contributions.

Part 3 EIA – regulation and tools contains six sections that focus on knowledge about and the background to EIAs:

- *Sida's regulation for EIAs in development cooperation* - suitable reference material for both Sida's programme officers and others affected by Sida's requirements for EIAs.
- *Indicators of sustainable development*
- *Economic consequences of environmental impacts*, which is a review of how environmental economic analyses can contribute to improving the EIA process and the Environment Impact Statement.

An environmental impact assessment (EIA) shall be part of the documentation on which decisions are based for all activities supported by Sida.

It is the responsibility of the partner in cooperation to make the EIA. Sida's role is to review the EIA and to provide support.

1. This document is a further development of "Guidelines for EIAs in development cooperation" which was published in 1998 and which is replaced by these guidelines, and "Sida's regulation for environmental impact assessments in development cooperation".

- *Good practices for environmental impact assessments*, which describes international practices in respect of EIAs. Can be useful for a programme officer to know about, can provide a basis for writing terms of reference for EIAs, and can offer advice to project owners and consultants responsible for making EIAs
- *Explanations of terms*
- *Reference literature*

Part 1

Review – projects

Review of EIAs – procedure

The programme officers at Sida are responsible for the review of the EIA environmental impact assessments. This section provides concrete advice for making reviews of EIAs in Sida-financed projects.

Environmental, health-related, social and economical aspects of a project are all parts of a whole. The assessment of how a project relates to environmentally sustainable development is only meaningful from this overall perspective. However, it is important to point out that an EIA merely constitutes one part of the analysis of the proposed project. For a wider analysis of the project's impacts from the perspectives, for example, of gender equality and poverty, reference is made to analyses in these areas.

The design, content and scope of EIAs shall be adapted to the needs in the project proposal in question. Projects that will have a major environmental impact require extensive and detailed EIAs, while EIAs for projects that are expected to have little impact on the environment can be kept very brief.

Assistance is available

Sida's EIA help-desk (sida-mkbhelp@slu.se) can assist programme officers in the review of EIA, or answer questions, for example whether a contribution requires a brief or extensive EIA.

In cases of major projects with extensive EIA documents, or in cases where the programme officer lacks requisite knowledge of environmental matters, it is possible to hand over the entire review of the EIA to Sida's EIA help-desk or to a consultant who is an expert in the field. Some of Sida's departments have their own environmental advisors who can be of assistance.

The programme officers at Sida are responsible for the review of the EIA environmental impact assessments.

The design, content and scope of EIAs shall be adapted to the needs in the project proposal in question.

For projects that are expected to have a small or insignificant environmental impact, the EIA in the project document can be very brief.

The conclusions of the environmental impact assessment shall be presented in the assessment memorandum on the proposed contribution.

Brief EIAs for projects with a small environmental impact

For projects that are expected to have a small or insignificant environmental impact, the EIA in the project document can be very brief. In Sida’s EIA regulation it is stated that ”in exceptional cases of contributions that are considered to have very little environmental impact, Sida’s programme officers may be responsible for an EIA in the form of a brief appraisal in the assessment memoranda or other documents used in this decision-making process”. It is important that the programme officer always goes through the project proposal and ensures that it is as satisfactory as possible from the environmental point of view, within the framework of the objectives of the project. When drawing up a brief EIA, it is recommended that Sida programme officers go through the checklist of questions below and present the answers to these questions. Programme officers should also go through Sida’s regulation for environmental impact assessments (page #). The conclusions of the environmental impact assessment shall be presented in the assessment memorandum on the proposed contribution.

Checklist of questions for brief EIAs

Has any appraisal been made that indicates that it is probable that the project will provide positive contributions to environmentally sustainable development? What are these contributions? Are they presented clearly? Are they optimised?

Has any appraisal been made that indicates a risk that the project can have a negative impact on the environment? What is this impact? Is a description given of whether it can be avoided or minimised?

Have other alternatives of achieving the project goals been considered, alternatives that are better from environmental point of view?

EIAs for projects with a significant impact on the environment

Extensive EIAs must be made for projects that will have a considerable impact on the environment.

Extensive EIAs must be made for projects that might have significant impact on the environment. In cases where the programme officer concerned does not have specialist knowledge in the environmental field, the review of the EIA should normally be made externally, for example by the EIA help-desk or by a consultant.

The review should be made in two steps: firstly the general review, which is common to all reviews, and then the specific area review (or reviews) which are based on the type of project in question, see appendix 1.

For the first step, the checklist of general questions shall be used. This starts on page #. For the second step, the checklists of specific area questions shall be used. They start on page #. Sometimes it is sufficient to select one of the checklists of specific area questions; in other cases it may be necessary to use several checklists. In a review of a rural development project, it may be necessary, for example, to go through the checklists of questions for agriculture and forestry, as well as those for water-related activities, institution development and capacity building.

The checklists are intended to provide a good basis for an assessment of the relevance and completeness of the EIA. It is not necessary to answer all the questions; the list should be used with discrimination, depending on the type of project in question. The checklists are also valuable for the dialogue with the project owner and provide, together with other parts of these guidelines, clear information of what Sida considers should be included in the EIA process. The questions can function as a source of inspiration and provide a foundation for both the review of the EIA and for terms of reference when the project owner commissions an EIA.

If the programme officer makes the assessment that the negative environmental impacts would be unacceptable, he/she should reject the project (see EIA regulation, point 5). If the programme officer considers the EIA to be incomplete, he/she can request a more extensive EIA from the project owner.

If a project application refers to a pre-study including an EIA programme, a complete EIA does not have to be attached, but an overall assessment of possible environmental problems should preferably be included.

Conclusions from the review

The conclusions drawn in the review are summarised in a short document that describes:

- key issues taken up in the EIA
- key issues taken up in the review
- standpoints of different stakeholders
- quality and relevance of the EIA
- recommendations in respect of the EIA's proposals and possible amendments to these recommendations as a result of the review.

The conclusions drawn in the review and the programme officer's assessment shall be presented in the assessment memorandum on the proposed project.

Extensive EIAs must be made for projects that will have a significant impact on the environment.

The conclusions drawn in the review and the programme officer's assessment shall be presented in the assessment memorandum on the proposed project.

Part 2

Review – sectors and regional programmes

EIAs for sectors and regional programmes strategic environmental assessments

Environmental impact assessments shall also be made prior to decisions on policies, plans and programmes, including sector support and regional contributions.

Methods for making EIAs have primarily been produced to facilitate assessments of proposals at project level. But environmental assessments shall also be made prior to decisions at the overall level, i.e. decisions on policies, plans and programmes, including sector support and regional contributions. Decisions of this type can govern processes for a long time and therefore, when they are prepared and made, they need to give consideration to any conceivable environmental consequences. Decisions at the overall level also affect freedom of action in respect of future decisions on the location and design of specific projects. Environmental assessments at this level are called strategic environmental assessments, SEAs. As EIAs for projects, strategic environmental assessments shall be initiated at an early stage in the planning process. Environmental assessments that are made prior to overall, strategic decisions open up new and greater opportunities to direct efforts towards creating a sustainable society. The decision-making data is extended and consideration of the environment can affect direction and focus.

Environmental assessments at this level are called strategic environmental assessments, SEAs.

The aims of strategic environmental assessments are to:

- make it possible to take environmental issues into consideration at an early stage
- specify impacts on the environment and thereby make it possible to integrate environmental considerations into the decision-making process
- stimulate attempts to find alternative solutions
- broaden knowledge and decision-making data and draw attention to gaps in knowledge
- make it possible to give attention also to indirect and more diffuse impacts, as well as cumulative effects, i.e. effects of the type that accumulate and increase with time
- facilitate future activities and decisions.

A great deal of work is being done today on developing methods for SEAs. In the EU, the production of SEAs will be a legal requirement when drawing up plans and programmes. Many of Sida's partners will also work with SEAs in their procedures in the future.

As with EIAs, it is the responsibility of the partner in cooperation concerned to make the SEA. Sida's role is to review the SEA. The organisation and design of a SEA must always be adapted to the planning and decision-making process of which the assessment shall be part. All working stages in the SEA shall be permeated by consultations with stakeholders such as government agencies, organisations, and the general public, for example the local population. Any uncertainties and gaps in knowledge should always be reported and followed up.

The conclusions drawn in the SEA shall be reported in the assessment memorandum on the proposed contribution.

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Proposed content of a strategic environmental assessment

- Description of the current environmental situation, ongoing environmental work, legislation, environmental objectives and environmental regulations and other institutional conditions.
- Report on how the regulations are obeyed to and whether the agencies concerned have the expertise and resources to check whether legislation is being followed.
- Report on points of departure, definitions, assumptions, effects, bases for valuations and uncertainties.
- Reasons for the selection of focus or alternatives.
- Description of participatory processes and explanations of the standpoints adopted in issues that have arisen.
- Possible positive and/or negative environmental impacts that have already been distinguished at this strategic level.
- Gaps in knowledge that need to be evaluated before EIAs are started for the specific projects.
- Plan for the monitoring of environmental impacts. Indicators for monitoring. Plans for involving the local population, non-governmental organisations and other stakeholders in monitoring and follow-up activities.
- Proposals for capacity building measures for environmentally sustainable development in the sector/programme.

Questions to be asked in the review of SEAs

- Has a survey been made of the needs, problems and objectives that are affected by the contribution, as well as a survey of the current environmental situation?
- Have the future scenarios that the environmental assessment shall take up been clearly defined, as well as the environmental aspects that shall be covered by the analysis?
- Were environmental issues included sufficiently early in the process in order to allow alternative solutions and courses of action to be studied?
- Have the environmental impacts of the scenarios been identified, predicted and analysed? Cumulative and indirect impacts should also be included.
- Have the consequences of the proposals been evaluated? The focus of environmental policies, environmental objectives, environmental legislation and similar standpoints can constitute the point of departure for evaluations.
- Has the process been documented? Have, for example, stakeholders concerned been identified and involved in the process?
- Are environmental impacts reported in a clear, unambiguous way?
- Is there a plan for monitoring the environmental impacts of the decision? This is important in order to allow new knowledge to influence implementation and subsequent decisions.

Sector programme support

A manual has been produced for SEA that shall be made prior to decisions on programmes of sector support. This could be one of the points of departure in the dialogue between Sida, the partner in cooperation and other donors. See *Sector Programmes – Guidelines for the Dialogue on Strategic Environmental Assessment (SEA)*, Sida 2002.

Country strategies

When country strategies are being produced, an environmental analysis shall be made by Sida, but the analysis shall be based, as far as possible, on information from the country's own documents and other available material. The environmental analysis is not a SEA of the type described in these guidelines, which is the reason why we have chosen to call it an environmental analysis. The environmental analysis at this level shall include all issues relating to the environment that are of central importance for the development of the country from the perspective of sustainability. The environmental analysis has the aim of improving the economic and social analysis, including the poverty analysis, and should be specifically linked to Swedish cooperation with the country in question. For further information see *The Country Strategies – Guidelines for Strategic Environmental and Sustainability Analysis*, Sida 2002.

Sida's other internal policies and documents

Where Sida's internal policies and analyses of, for example, a sector is concerned, Sida shall make a SEA that is based on the same principles as outlined in this chapter. The scope of the assessment must be determined from case to case.

Part 3

EIAs – regulation and tools

Sida's regulation for environmental impact assessment in development co-operation

Purpose

- to improve the conditions for Swedish international development co-operation to contribute to sustainable development.
- to point out, in a systematic manner, the positive and negative environmental impacts of a proposed contribution.

Motive

The fifth objective of Swedish international development co-operation stipulates that Swedish development co-operation shall contribute to the sustainable use of natural resources and the protection of the environment. Under Sida's policy in its action programme for sustainable development, environmental considerations must be an integral part of all development co-operation. Some reasons for this are that:

- Environmental issues are decisive for sustainable production, food safety and economic development.
- Combating poverty is impossible in the long-term if no account is taken of the natural resources and environment on which people depend for their livelihood.
- Peoples' health depends on the state of the environment and the existence of natural resources.
- Democratic systems are threatened when destruction of the environment and lack of resources encroach upon the possibilities of people to make a livelihood.

Scope of the rule

Sida's programme officers must ensure that an EIA is carried out on all contributions in Sida's development co-operation. It is the responsibility of the partner in co-operation to carry out the EIA. Sida's role is that of inspection and support. In exceptional cases of contributions that are considered to have very little environmental impact, Sida's programme officers may be responsible for an EIA in the form of a brief appraisal in the assessment memoranda or other documents used in the decision-making process.

Measures

The EIA process at Sida

1. Whenever Sida is approached to provide information on conditions for Swedish development co-operation, the programme officer responsible for the assessment of contributions shall inform them that an EIA must be carried out for all contributions that are part of Sida's development co-operation. The programme officer must clearly inform the partner in co-operation of the requirements for the performance and content of the Environmental Impact Assessment as shown below.

Environmental impact assessments, EIAs, shall enhance the potential of Swedish international development cooperation to contribute to sustainable development.

EIAs shall also point out, in a systematic manner, the positive and negative impacts of a proposed contribution.

Sida's requirements for performance and content of an EIA

An EIA shall be carried out during the planning stage of a contribution and constitute one of the bases of Sida's decision on support. An EIA shall be made sufficiently early for its conclusions to influence both the design of contributions and Sida's decision on support.

The EIA must contain a systematic survey and assessment of the probable favourable and unfavourable environmental consequences and must give a clear picture of their magnitude, scope and significance.

The appearance, content and scope of the Environmental Impact Assessment must be adapted to the needs of the contribution in question. For contributions that are expected to have little environmental impact, the EIA can be very brief (just a few lines), while contributions that may have a significant environmental impact require a more comprehensive and detailed EIA.

The partner country's environmental legislation, EIA rules and environmental standards form a starting point for the EIA. Sida may, however, set environmental standards that are stricter than those of the partner country if this is considered necessary for sustainable development and hence for Sida's decision on support. An EIA must also be made for projects that do not require one under the legislation of the partner country.

An EIA shall pay regard² to direct or indirect influences on:

- humans, flora and fauna;
- land, water, air, climate and landscape;
- material assets and cultural heritage;
- the interaction between the above factors.

The EIA report shall include the manner in which men and women, different age groups and social and ethnic groups are affected by the environmental impact.

The EIA shall contain proposals for measures to prevent or minimise damage and proposals for optimising the contribution's impact on sustainable development within the context of the project's objectives. Where appropriate, alternatives to the contribution should be proposed in the EIA, e.g. alternative solutions to the problem, alternative project designs or alternative locations.

The EIA should contain a description of the current state (baseline) and should provide indicators that make it possible to monitor the impact of the project on environmentally sustainable development.

The EIA report shall include details of whether affected interest groups have received sufficient information and had the opportunity to take part in and influence the process, and whether separate views have been presented, documented and taken into account.

The conclusions of the EIA shall be included in relevant parts of the project proposal's LFA Analysis or other planning documents of the project proposal in so far as these exist.

2. Sida's views in this respect are tied to the EU directive on EIA (Council directive on the assessment of the effects of certain public and private projects on the environment 85/337/EEG of 1987 with amendments and additions, 11/97/EG of 1998).

2. In the *initial assessment* of an application, the Sida programme officer shall establish whether an EIA has been carried out and reported in the programme/project specification.
3. If a programme/project specification does not contain an EIA, the Sida programme officer shall call attention to this and state briefly the necessary scope and direction of the EIA for Sida to consider support.
4. The EIA shall be checked by Sida. If further details are required, Sida's programme officer shall state this.
5. If, as early as in the initial assessment, it appears that the proposal has an unacceptable environmental impact, the application for support shall be turned down. Here the precautionary principle should apply, i.e. Sida should not support activities that might cause serious damage to the environment even if there is no scientific proof.
6. In the *in-depth assessment*, Sida shall review the EIA in detail. If it requires additions, Sida shall state so. Sida may decide to have an external review made of an EIA if this is considered to be necessary in its assessment of the project.
7. In those cases where Sida, after review, observes that an EIA requires additions, it shall not make a decision on its contribution until the additional work has been carried out.
8. The conclusions of Sida's review and the standpoint adopted by Sida on an EIA shall always be summarised in the assessment memoranda or other documents on which Sida's decision on support is based.
9. Follow-up of the EIA shall be regulated in agreements. Monitoring and evaluation of the actual environmental impact of the contribution and of planned measures actually being undertaken in accordance with the EIA should be done together with other monitoring and evaluation of the project during and after its implementation.
10. Ongoing contributions that have not previously undergone an EIA shall undergo one at the first suitable opportunity, e.g. at the beginning of an assessment of possible extension of Sida's support.

Here the precautionary principle should apply, i.e. Sida should not support activities that might cause serious damage to the environment even if there is no scientific proof.

Special forms of aid

When development co-operation is financed jointly with other donors, the EIA guidelines of the lead agency should be followed. One Sida requirement is, however, that the lead agency approves an EIA of the contribution and reports the results of its investigation before Sida decides on financing. The follow-up of the EIA shall be regulated in the agreement. Sida reserves the right to assess the EIA if this appears justified. The results of such review shall then constitute part of the basis of Sida's decision on joint financing.

The requirement for an EIA also applies to contributions via multilateral institutions and via independent Swedish, foreign and international non-governmental

organisations and shall be regulated in agreements with these partners in co-operation. Where necessary Sida shall carry on a dialogue on which EIA requirements should be applied.

Other environmental analyses

Before sector programme support is implemented, a strategic environmental assessment should be carried out by the partner in co-operation. This environmental assessment shall contain a description and analysis of environmental impacts, environmental work and sustainable solutions in the sector, including legislation and other environmental regulations. Sida should similarly take into account strategic environmental assessments that the country is carrying out in relation to contributions in different sectors and in regions.

When country strategies are being prepared, Sida shall make an environmental analysis. But this should, as far as possible, be carried out on the basis of the country's own documents and other available material. An environmental analysis at this level must take in those environmentally related issues that are central to the country's development from the sustainability point of view. The environmental analysis aims to enhance the economic and social analyses, including that of poverty, and should be clearly tied to Swedish co-operation with the country in question.

Adjoining Areas

Sida's views on and treatment of issues involving EIA are also taken up in the following documents:

- Sida at Work
- Environmental Care – Sida's programme for sustainable development
- Sida's Guidelines for Environmental Impact Assessments (EIA) in International Development Cooperation
- Guidelines for the Application of LFA in Project Cycle Management
- The Country Strategies – Guidelines for Strategic Environmental Analysis

Regulation owner: Environment Policy Division (Department for Natural Resources and the Environment) Decision of the Director General: DG 54/01

Indicators for sustainable development

Monitoring changes in the environment caused by a project or programme is an important part of the environmental impact assessment. Monitoring with the aid of a number of well-selected indicators is a good method of surveying environmental impacts since it measures and interprets whether a project has achieved its expected effects and whether any unexpected effects have arisen.

The purpose of indicators

Indicators need to be developed for the contribution to enable the project owner and the Sida programme officer to assess whether a project is leading to sustainable development. It should be possible for the indicators to:

- be used to give a “baseline”, i.e. a description of the present situation
- indicate whether the project is leading to deterioration or improvement of the environment and, as far as possible, whether it is contributing to sustainable development
- be used in connection with the EIA process and be included in Environmental Impacts Statements (EIS).

In other words, indicators are tools for good EIAs and project management. They provide a summary of information on characteristics in systems or clarify changes in systems. Their purpose is to simplify complex phenomena and make it possible to gauge the general status in a system. Environmental indicators are used in the project context as a management tool to help the project manager predict direct or indirect environmental change (negative or positive) mitigate or promote these changes, and follow developments in order to be able to manage the project in an optimal way from an environmental perspective.

By using indicators for monitoring projects, it is possible to reduce large amounts of data to a simple response to a core question. To ensure that indicators do not give wrong signals, it is important that the cause and effect links relevant to the project have been determined.

The strong links between the different parts of a project: planning, implementation and monitoring, indicate that the selected indicators should be relevant throughout the entire project cycle:

- During project planning – a baseline value for the indicators should be determined before the project is started.
- During the implementation phase – the impact on the environment of the project (direct and/or indirect) are compared with the baseline value to permit the project work plans to be modified rapidly, if necessary.
- When the project is finalised – the impact on the environment of the project are evaluated. Whenever possible, impacts outside the project area should also be evaluated. In view of the delay factor in many of the impacts, it is desirable that the follow-up of environment impacts continues until any further impacts on the environment can no longer be expected.

In the example below a description is given of the components that an environmental monitoring programme can consist of.

Monitoring environmental impact

An effective programme for monitoring environmental impact should consist of the following elements³:

- Monitoring objectives
- Description of indicators which provide linkages to impacts and mitigation measures identified in the EIA
- Description of parameters to be measured, methods to be employed, sampling locations, frequency of measurements, and definition of targets to aim for or thresholds that signal the need for remedial action (where appropriate)
- Institutional division of responsibilities, when and how often monitoring shall take place
- Reporting arrangements (for the regulatory authorities, Sida, and the implementing party).

Practical aspects

- *Who shall select the indicators?* The project owner is responsible for identifying indicators and developing methods for the monitoring process. The role of the Sida programme officer is to be responsible for quality assurance/review (cf. EIAs). On the other hand, institutional support is often required for following up indicators and for cooperation between Sida and the project owner in order to obtain a good EIA. Where indicators at project level are concerned, it is important to ensure that stakeholders are included in their development. The process must be as participatory as possible in order to find the right indicators. Local participation in the selection of indicators is also an advantage since this makes it possible to make good use of local knowledge, to identify existing environmental monitoring initiatives, and discuss the division of responsibilities for monitoring effects. It is also constructive if the indicators can reflect whether women and men, different age groups and different social and ethnic groups are possibly affected in different ways.
- *How shall the indicators be used?* There are three different roles for indicators: to indicate the situation before the implementation of the project, to indicate developments during the course of the project and to indicate results and further developments after the end of the project. It is suggested that the indicators should be followed up at six or twelve month intervals. In the *project cycle* they should be present in all external evaluations, mid-term reviews, reports on the finalisation of the project and in thematic evaluations.

Types of indicators

- It is usual to break down a certain environmental aspect into a cause and effect chain consisting of *driving force, pressure, state, impact and response (DPSIR)*. Consideration should be given to the information category of this type that is best, taking into account the recipient of the information, the comprehensibility and stability of the relationship between cause and effect, and ease of follow-up.
- Even if indicators are often *quantitative*, they can also be *qualitative* (for example in the “yes/no” form). If simple, qualitative indicators are selected, there is a danger that the information they provide will be far too broad. However, this can also be the

3. Based on World Bank, 1996, Environmental Performance Monitoring and Supervision. Environmental Department, Washington.

best solution when the aims of the indicator and resources for data collection are taken into consideration.

- Sometimes it is suitable to determine a *target to aim for* for a certain indicator, from a political perspective. *Threshold values*, in respect of the ecosystem's tolerance, have been developed in some fields. By presenting values of this type together with measured values, the recipient is given a frame of reference and comparisons can be made.

To consider before project indicators are selected

- It is often *difficult to establish clear links between a certain environmental situation or environmental event and a specific project*. The environment often expresses cumulative impacts. In order to avoid this problem as far as possible, it is important to request an activity plan from the project owner, to identify potential environmental impacts at a reasonably detailed level in the project proposal, and to survey the zero alternative (i.e. the environmental impacts of expected developments in the project area if the project is not implemented) so that there is a basis for comparison. With the aid of a thorough understanding of the project activities and their potential impact on the environment, it is possible to interpret the project's contribution to overall environmental trends.
- It is important to remember that the *project's impacts* can be delayed over time and can have an impact on a larger area than the direct area covered by the activity. Therefore, indicators should be selected that can also provide information on these types of impacts. Expected impacts and selected indicators can be divided up into *direct and indirect environmental effects* in order to shed light on problems concerning delayed effects and to refer effects to specific projects.
- The indicators shall preferably be *relevant for the entire project cycle*. It is important to identify indicators at an early stage ("*pre-feasibility study*" or "*feasibility study*") to permit basic values to be collected. Without basic values it is not possible to determine whether the trends shown by indicators are positive or negative. The indicators should then be followed up when the project is being implemented.
- Both *positive and negative environmental impacts* should be monitored. Projects that have a direct focus on improving the environment need to be monitored to determine whether the best possible improvements have been achieved.
- The *definition* of an indicator must be clear and unambiguous in order to prevent confusion in respect of concepts.
- The *cost* of collecting data for the project indicators must be weighed against the benefits they provide for monitoring and follow-up purposes.

In the report *Indicators for Environmental Monitoring in International Development Cooperation*, there is a further discussion of this subject as well as methods and criteria for the selection of indicators in Sida-financed contributions.

Economic consequences of impacts on the environment

The integration of environmental considerations into proposals, assessments and decisions on the project improve the prospects of achieving economic and social development. We know this since negative environmental effects, such as over-fishing, soil erosion and air pollution often have a negative impact on the possibilities available to people to be productive, to work, and to live a healthy life. In other words, most environmental effects are of significance for social and economic development. Therefore, it is important that there is a discussion in the EIA on the impact of the project in terms of environmental economics. By estimating the effect of an environmental impact on the economy, it is easier to understand the importance of an environmental problem - or an improvement to the environment – for general development. Making priorities between different projects and their implementation can also be facilitated.

An economic analysis of the environmental impacts of a project should preferably be made with three different approaches during the planning phase of the project:

- in the assessment of the impact on the environment of a proposed project (i.e. what are the costs of potential impacts on the environment?)
- in the analysis of the measures that must be taken to prevent or reduce negative impacts on the environment (i.e. what can be the cost of these measures compared with the cost of the impacts on the environment?)
- in the final project assessment after a specific alternative has been identified (i.e. what is the project cost, including an assessment of environmental costs?).

Of these three points, it is perhaps above all the second that seems difficult for most people. However, possible environmental costs should always be placed in relation to the cost of mitigating or preventing the problem – if the cost of mitigating the environmental problem is greater than the cost of the impacts on the environment, the cost of the environmental problem should be accepted, according to economic theory. However, in this context it is important to remember that existing analytical methods used in environmental economics cannot put a price on all impacts on the environment. An environmental economics analysis is an important step in the right direction. But qualities in the environment, on which it is not possible to put a price, for example some aspects of biological diversity, are not without value from the economic point of view. Instead they often tend to be irreplaceable and essential for economic success in the long term.

To facilitate the integration of the environmental economic impacts of a Sida project, questions that are relevant from the perspective of the economy have been included, whenever possible, in the checklists of questions for each specific area (specific area questions).

Biodiversity and ecosystem services

An estimated 40% of the global economy is based on biological products and processes⁴. Biodiversity performs a number of ecosystem services for human beings in a healthy ecosystem. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants⁵. Calculations show that ninety million tons of nitrogen are provided for agriculture each year by nitrogen-fixing microbes, at a value of USD 50 billion per year⁶. In one study scientists have valued the world's ecosystem services at USD 33 trillion/year⁷. This can be compared with global GNP for the year the study was made, 1997, which amounted to USD 18 trillion. The study has created a great deal of debate as some scientists argue the accuracy of the calculations. However, there is general agreement that the value of ecosystem services is considerable.

The table below presents a list of a number of environmental impacts that are relevant from the economic point of view. A review of the quality of an EIA should include checking the economic analysis. From a study of the table it is evident that both direct and indirect environmental impacts should preferably be included in an EIA and the economic analysis of a project. This means that aspects such as a reduction in the availability of fish as a result of over-fishing should be valued (a direct impact) as well as, for example, any loss of protection against storms or floods caused by the destruction of a mangrove forest or wetlands (an indirect impact). The integration of environmental impacts in the project can preferably be done with the aid of analytical economic instruments. There are a number of methods that can be used to put a value on environmental impacts in economic terms (for example changes in productivity, lost income and medical costs). However, methods of this type cannot put a price on all environmental impacts and often require considerable resources. Therefore, as a first step, it is sufficient in most cases to request that the EIA contains a discussion of the costs and benefits that the project's environmental impacts can give rise to.

4. Koziell, I., Diversity not Adversity, DFID, IIED, 2001.

5. Cairns, J.R., Pratt, R., 1995, The Relationship between Ecosystem Health and Delivery of Ecosystem Services, Springer Verlag, Berlin.

6. Pimental et al. Conserving Biological Diversity in Agricultural/Forestry Systems, Bioscience, Vol. 42, 1992.

7. Constanza et al. The value of the world's ecosystem services and the natural capital, NATURE, Vol. 387, 1997.

Examples of the economic significance of environmental impacts

Environmental impact	Impacts on the economy
Pollution <i>Air</i> Respiratory diseases Effects on vegetation Pollution of materials/surfaces Aesthetic degradation <i>Water</i> Pathogenic organisms or toxic substances in drinking water Effects on fish Effects on water sports and other water activities <i>Undesirable noise</i>	Lost working days, medical expenses Reduced harvests Cleaning expenses, expenses for frequent repainting, destruction of art and historical artefacts through decay, lower property values due to unpleasant odours Reduction in visibility due to smog Lost working days, medical expenses, cost of alternative wells or water supplies Reduction in catches Reduction in income from tourism Lower property values
Destroyed/damaged ecosystems <i>Reduction in biological diversity</i> <i>Forest land</i> Deforestation Monoculture plantations <i>Agricultural land</i> Soil erosion Increased salinity in the soil Monoculture plantations <i>Wetlands</i> Filling in and drainage <i>Coral reefs</i> Effects of toxic substances and sediment, loss of biological diversity <i>Ground water</i> Pollution Lower ground water level	Increase in the vulnerability of the ecosystems resulting in the deterioration of their long-term capacity to support economic development. Reduction in the production of timber, reduction in the production of other forest products Sedimentation – shorter productive time for hydropower reservoirs, lower quality of water Lost ecosystem services from intact forests with high levels of biological diversity (e.g. insectivores, decomposition of organic material, degradation of pollutants, protection against floods and erosion, “carbon sinks”, pollinators and seed dispersers) Lost ecosystem services (e.g. insectivores, degradation of pollutants, protection against erosion) Smaller harvests, sedimentation – shorter production time for hydropower reservoirs, deterioration in water quality Reduction in agricultural productivity Loss of ecosystem services (e.g. insectivores, decomposition of organic material, degradation of pollutants, protection against erosion and floods) Increase in damage caused by floods, loss of unique natural environments, loss of ecosystem services (e.g. regulation of water level, decomposition of organic material, degradation of pollutants, “carbon sinks”) Reduction in fish production, loss of recreation values, reduction in income from tourism, reduction in the capacity to protect sensitive beaches from the force of the waves, and the loss of possibilities to extract medicines etc. Lost working days, medical expenses Expenses for alternative wells or other water sources Precipitation of iron etc, structural destruction, deeper wells

Environmental economic analysis in the project context

Advantages of planting trees in Nigeria

Economic analyses that refer solely to the production of timber undervalue the benefits of tree plantations. In Northern Nigeria a study was made of four different advantages of planting trees: a) less erosion in the future, b) improved fertility of the land, c) access to wood products (wood, timber, fruit etc) and d) increased access to food.

The costs and benefits of the project were calculated in seven steps: a) determination of the gross and net incomes of the farmers, b) determination of rates of growth in agricultural productivity, c) determination of the increase in farmers' incomes as a consequence of protecting the environment, d) calculation of the rate at which fertility of the land changes, e) calculation of the value of timber per cultivated hectare, f) determination of the project's costs, and g) calculation of the value of the land where the trees were planted. If the calculation had only referred to timber, the result of the project would have been a five per cent return on investment. If the other three advantages were included instead in the analysis, the present value was increased fourfold, to more than 15 per cent. Yet the ecological services had been estimated at a low level⁸.

Advantages of preserving coastal forests in the Philippines

An environmental economic analysis of a forest area near El Nido on the island of Palawan in southwest Philippines showed that, from the economic point of view, it was better to allow a forest area near the coast to remain intact than to clear it. The effects that felling the area would have downstream, several kilometres away, were assessed to cost at least twice as much as the profit the timber would give on the market. The study showed that soil erosion would increase many times over, with the effect that more soil particles would finally end up in the rivers and slowly but surely find their way down to the coast. If this were to happen, it was estimated that coastal coral reefs would be negatively affected, with the result that incomes in the area from both fishing and tourism would decline.

The study illustrates how important it is to assess the value of the different economic sectors in a holistic perspective. The tree-felling plan, which would have had the effect that the forest would have been felled over a five-year period, was

never put into effect, partly on account of the environmental economic analysis. Yet the study only estimated the value of a small proportion of the valuable resources and ecosystem services that the forest and coral reefs produce⁹.

Advantages of protecting areas from invading species in South Africa's Fynbos vegetation

In South Africa there is a very special type of bush vegetation called Fynbos, which is extremely rich in different species. This unique natural system is being threatened by invading plants (invasive species) from, for example, Australia and the Mediterranean region, which are changing both the ecology and the economy. The invading plants oust the native species and transform areas that were formerly rich in different species into commonplace fields that just contain a few species. This also results in a loss of arable land, grazing land, aesthetic values and nature reserves, and contributes to new plant diseases. Perhaps the greatest problem of all is that it has become apparent that the new plants require much more water than the Fynbos vegetation. Environmental economic analyses have shown that the benefits of restoring Fynbos vegetation outweigh the costs. In certain mountain areas, expensive measures to stop the new species from spreading have been shown to be profitable, even if the calculation only includes the economic benefits of remedying the rapidly diminishing flows of water and not the benefits of a number of other resources and ecosystem services produced by the Fynbos vegetation that the invading species do not produce to the same extent: commercially interesting flowers, edible plants, medicinal plants, tourist income etc. In addition, the Fynbos vegetation provides living space for the bees that are essential for the pollination of South Africa's fruit plantations¹⁰.

The analyses also showed that it would be most profitable economically to take rapid action since the invading species are expanding rapidly and the cost of eliminating them is constantly increasing. As a result of the environmental economic analyses, a project was initiated in 1996 called the "Working for Water project", which received international financing and support from the South African government. The project is more than an environmental project. It has been something of an economic success and has contributed to poverty reduction. The project has created more than 4 000 job opportunities – giving precedence to poor, single women – and has preserved a unique type of nature.

8. World Bank, 1991. Environmental Assessment Sourcebook. Vol. I-III.

9. Hogson, G. & Dixon, J. A., 1988. Logging versus Fisheries and Tourism: Economic Dimensions. Occasional Paper. East West Centre, Environment and Policy Institute, Honolulu.

10. Crowling, R. M., Constanza, R. & Higgins, S. I., 1997. Service Supplied by South African Fynbos Ecosystems. Nature's Services (chap 19): Social Dependence on Natural Ecosystems. Ed. Gretchen C. Daily. Island Press.

Good practices for environmental impact assessments

Sida's basic approach is that the EIA legislation of the partner country should be followed. In some countries legislation of this type is still lacking and in other cases it is less extensive than Sida's requirements in respect of EIAs. In such cases this section on good practices can provide some support.

This text describes a conceivable EIA process made by the project owner, which corresponds to good practices for EIAs according to OECD/DAC¹¹ and Sida's approach. Sida's programme officers should be well acquainted with the content in this section of the guidelines since it will enable them to assess the need of an EIA for the project proposal concerned and to review EIAs. Together with the main text of the guidelines and the checklists of questions, the description can also serve as a first guide of Sida's approach to EIAs for the project owner.

1. Sida's requirements for EIAs

Long-term sustainable use of natural resources and protection of the environment is one of the basic objectives of Sweden's international development cooperation. Consideration of the environment shall permeate all Sida's activities. Therefore, in its regulation (see page 15), Sida has introduced requirements for EIAs in all its contributions. It is the responsibility of the partner in cooperation to make the EIA. The EIA shall be made as early as possible in order to permit its conclusions to influence the design of the project.

The appearance, content and the scope of the EIA should be adapted to the needs of the project proposal in question. Projects that will have a significant impact on the environment require an extensive and detailed EIA, while EIAs for projects that are expected to have little impact on the environment can be very brief.

The conclusions drawn in the EIA shall be presented in the project proposal. It may be necessary to present an extensive EIA in a special report. However, a summary must always be available in the project proposal.

2. Brief EIAs for projects with a small environmental impact

For projects that are expected to have an insignificant or small environmental impact, the EIA can be very brief. The important aspect in this respect is that the project owner always goes through the project proposal and ensures that it is as satisfactory as possible from the environmental point of view, within the framework of the project's objectives.

A brief EIA can be made by going through and answering the following questions:

- What are the project proposal's probable positive contributions to environmentally sustainable development? Are they reported clearly? Are they optimised?
- What are the project proposal's probable negative environmental impacts? Has the project been designed to minimise or avoid these impacts? Can the proposals for measures to be taken be further improved?
- Has consideration been given to other alternatives to achieve the project goals – alternatives that are better from the environmental point of view?

11. OECD Development Assistance Committee: Guidelines on Environment and Aid, No. 1. Good practices for Environmental Impact Assessment of Development Projects. OECD Paris 1992.

If there is any uncertainty in respect of the environmental impact and its scope, a more extensive EIA shall be made.

3. EIA process for an extensive EIA

The text below describes the process for a more extensive EIA, as it has been developed internationally over the years. When making a brief EIA, appropriate parts of the content should be used.

3.1 Screening

In most countries screening is done in order to select the projects that shall have an EIA. Since Sida has obligatory requirements for EIAs, no screening is necessary. Instead the EIAs of projects that have a small environmental impact can be kept very brief (see above).

3.2 Scoping

Scoping is done to limit the focus and scope of the EIA study. Scoping is done in order to:

- define and justify the environmental aspects that may be selected for study, the methods that should be used and the qualifications and experience necessary to make the study
- define and justify the environmental aspects that have not been selected for study
- formulate alternatives that should be studied further
- identify groups of stakeholders and their participation, and their needs of information
- give priority to questions that shall be studied in the first place
- define limits in time and space for the EIA study.

Scoping can result in terms of reference for the EIA study, or, if the project owner (in consultation with Sida's programme officers) makes the assessment that no EIA is needed, in a summary of conclusions and reasons.

Two aspects of scoping are particularly important. Firstly, scoping provides a very good opportunity to identify different stakeholders (if these are not already participating in discussions on the project) and to facilitate their participation in the EIA process. To ensure that the participation of all relevant stakeholders is made possible, a stakeholder analysis is required, in which primary and secondary stakeholders are identified. It is an advantage if the stakeholder analysis can be made with the aid of participatory methods since this reduces the risk that any stakeholders may be overlooked. Secondly, scoping offers the best opportunity to identify alternatives to the proposed project, before project preparation has proceeded so far that it would be far too difficult to arrange a radical reorganisation.

Some main features of scoping are:

- Scoping can often be done as a desk study. However, where major projects are concerned, visits should be made to the geographical area that will be covered by the project.
- Participatory methods (see fact box "Public participation") that are introduced as early as during the scoping phase provide important contacts with the people that

- are affected giving them an opportunity to influence the design of the EIA process.
- The use of maps, aerial photographs and satellite images often provide valuable information.
- The EIA study that follows the scoping phase often leads to a redefinition of important environmental impacts and key areas. The terms of reference that are produced in the scoping process should be formulated in such a way that they give consideration to this aspect.

3.3 Implementation of the EIA-study

Scoping, screening and subsequent review are all parts of the EIA process. The main part of the EIA is called the "EIA study". The EIA-study should as a result give an EIA document including:

- a description of the present situation
- a description of existing legislation in respect of EIAs and the environment
- an in-depth analysis of the environmental impacts (positive and negative) of the planned activity, including associated social and economic consequences
- an impact analysis of different alternatives, including the zero alternative
- development of measures that optimise the project's contribution to sustainable development and minimise and avoid damage
- plans for monitoring and evaluation.

The EIA-study shall always be implemented in such a way that it guarantees, as far as possible, an independent and impartial assessment of the environmental impacts of the project proposal. At the same time, the EIA needs to be integrated into the project planning process in order to make it possible for the EIA to influence this process. In order to balance the need of integration with requirements in respect of integrity (honest and impartial reports on impacts), the EIA needs to take a step to one side and objectively report the consequences of the proposal, above all at the decision-making stages in the planning process. Providing information openly to stakeholder groups increases the probability that the EIA will be honest and impartial. However, the EIA should function as part of the project documentation. Sometimes the EIA will be a separate document. In other cases it will be included in the project document.

It should be pointed out that the EIA document is not one technical document among others, but is a basis for making decisions on the project. This also includes giving ideas and advice for further work, which should be included in the project decision.

Public participation

Experience gained from the work done on EIAs shows that an open approach with several different perspectives often leads to the development of interesting alternatives that could not be produced by just one party. With the aid of participatory methods and by making local participation possible, there are greater prospects of obtaining knowledge of relevant issues and current problems. To make the participation of all relevant stakeholders possible, a stakeholder analysis is needed in which primary and secondary stakeholders are identified. Consultations with different stakeholders should start as early as possible, preferably as early as in the idea stage of the project proposal. Thereafter, the stakeholders should be given the opportunity to participate actively throughout the entire EIA-process, both in the screening phase and during the implementation and review of the EIA-study, in

order to be able to submit their points of view and their assessments of the results. As mentioned above it is important that the people who will be affected are informed of the content of the EIA in a manner that it is adapted to the local situation.

Traditions in different countries vary where local and popular participation and consultation are concerned. Sida has the ambition of having as great a degree of openness as possible. In the consultations with local groups that can be affected by the environmental impacts of the project, it is important that a specific poverty and gender perspective is included. Women, men and children shall be consulted and consideration should be given to the ways in which and the extent to which they are affected.

3.3.1 Different parts of the EIA-study

Below the different parts of an EIA study are presented in brief. For detailed guidance for the implementation of an extensive EIA study, please refer to the literature in the reference list (page 106).

a) *The EIA study starts with the collection of background data* on relevant physical, ecological, economic, social, cultural and demographic conditions in the project area. It is often a good idea to use participatory methods to obtain the assistance of local people for acquiring both current and historical data on the area. This data forms the basis of a description of the existing environment and expected changes to the environment based on current and human activities, without any effects resulting from the project - the zero alternative - against which an assessment is made of the proposed project.

b) Thereafter *the environmental impacts are identified* – both positive and negative. These are impacts that can arise, directly or indirectly, as a consequence of the proposed project. They also include social impacts, health impacts and economic impacts related to the environmental effects. The impacts on women, men and children should be presented separately when relevant, as well as a breakdown of impacts on different groups in other respects, with special consideration given to weak and poor groups and to future generations.

An EIA shall take into consideration¹² direct or indirect impacts on:

- human beings, flora and fauna
- land, water, air, climate and landscape
- material assets and cultural heritage
- interaction between the factors mentioned above

c) An analysis and assessment of the size, scope and importance of the environmental impact is a very central part of the EIA process. It is necessary that all stakeholders are given the opportunity to present their views. It is important that a specific report is made on the degree of uncertainty in the assessments of different types of impacts and risks. It is also important to relate the analysis to existing environmental legislation and other agreements.

12. In this respect, Sida's approach follows the EU directive on EIAs (EU's directive on the assessment of effects on the environment of certain public and private projects 85/337/EEC of 1988, as amended by 11/97/EC of 1999.

A economic evaluation of the environmental impacts should be made whenever possible and should always be requested if significant environmental impacts are expected in the EIA. A monetary evaluation of the identified environmental effects facilitates the integration of the EIA into the final project assessment. The economical consequences of environmental impacts are taken up on pages 22–25.

d) Identification and assessment of alternatives to the project (including the zero alternative) and alternatives within the project itself should be made in order to strengthen the project's contribution to environmentally sustainable development and to avoid, as far as possible, any negative environmental impacts. The alternatives can refer to both the design and location of the project. Note the importance of being open for completely different solutions than those assumed in the project proposal. To make it possible for an alternative to form the basis of meaningful comparisons, it is essential that it is an "honest" alternative. The aim is not to shed more advantageous light on a certain solution with the aid of a "bad" alternative. This puts credibility of the EIA document at risk, and ultimately the project also.

e) Development of measures to avoid or minimise damage and to optimise the project's contribution to sustainable development (mitigating measures). Damage can be handled with, for example, the aid of measures for preventive purposes, for compensating damage, and for restoring values. Note that the impact of these measures must also be assessed.

f) Plans for the implementation of measures and for monitoring and evaluation. It is important that proposals are made here in respect of persons or institutions that will be responsible for taking agreed measures and for monitoring environmental impacts and measures. It is also important that funds are allocated for monitoring and evaluation within the framework of the project.

g) Providing information on conclusions. This is done in the final report on the study. The final report on the environmental impact assessment is a very important document for further reviews and for decision-making purposes. As far as possible the language used in the report should be simple enough for the general public to understand, and unavoidable technical terms and expressions should be explained. It is important that the people who are affected by the planned project are informed of the content and conclusions of the final EIA in a way that is adapted to local conditions. The EIA report should therefore, whenever necessary, be available in local languages. In areas with, for example, illiteracy and social and/or cultural barriers, other media (video, radio, local meetings, seminars etc) should also be used to provide information on the content of the report. It is also important to give those concerned sufficient time to go through the conclusions of the EIA.

It is the project owner's responsibility to ensure that all relevant stakeholders have access to the final report and that they are given real opportunities and sufficient time to inform themselves of its content and to submit their points of view. It is also the project owner's responsibility to take these points of view into consideration.

A common structure of an EIA document is¹³:

- a non-technical summary
- administrative frameworks, laws, policies and any international conventions that affect the project in question.
- a description of the project, its goals, and alternative locations, design and scope
- the zero alternative(s)
- surrounding area(s) that can be affected by the project (baseline study)
- expected environmental impacts (including impacts on health) of the different alternatives
- measures planned to be taken to reduce negative impacts
- methods and sources used, including participatory methods
- uncertainties in forecasts and source material
- monitoring programme

Appendices

- names of persons who made the study
- references
- minutes of meetings or summaries of the points of view of the general public

3.4 Review

A review of the EIA is made to assess whether the EIA provides sufficient information to make a well-founded decision to implement the project and on forms for implementation. Furthermore, a review is made to obtain an integrated and impartial assessment of the different interests and values represented by different stakeholders. Note that this review is the responsibility of the partner country/project owner and not the review made by Sida (see Part 1 in these guidelines) that has the aim of determining whether the project should be given financial support. On the other hand, the review questions in Part 1 can also be of assistance in the review made by the project owner.

The review should:

- make it possible for local people, different stakeholders and the general public to be informed of the EIA and to submit points of view on it
- give the project owner support in the work of planning, designing and implementing the project with as extensive positive contributions to sustainable development as possible and as little damage as possible
- check whether the project proposal and the EIA proposal correspond with national and international environmental standards and environmental legislation.

An external review of the EIA should always be sought in major projects and is also valuable for small projects when possible. An external review should be led by an independent party who should give representatives of all stakeholders the opportunity to participate. Even if no external review is made, an internal review should take place within the framework of the project planning process. The different stakeholders

13. Taken from the World Bank's EIA Guidelines (World Bank 1991) and the Convention on Environmental Impact Assessment in a Transboundary Context (The Espoo convention, 1991).

should also be able to participate in the review of the EIA and submit their points of view on the results.

The conclusions drawn in the review are summarised in a short report that describes:

- key issues that have been taken up in the EIA
- key issues that have been taken up in the review
- standpoints of different stakeholder groups
- quality and relevance of the EIA
- recommendations on the EIA proposals and any possible changes to the recommendations
- recommendations for decisions based on the review

3.5 Project implementation

Successful project implementation requires that the conclusions agreed in the EIA are taken into consideration in the final organisation of the project. Many projects are process-oriented and the environmental components need to be gradually developed together with other parts of the projects. Whenever necessary, the EIA and project documents should provide scope for this.

3.6 Monitoring

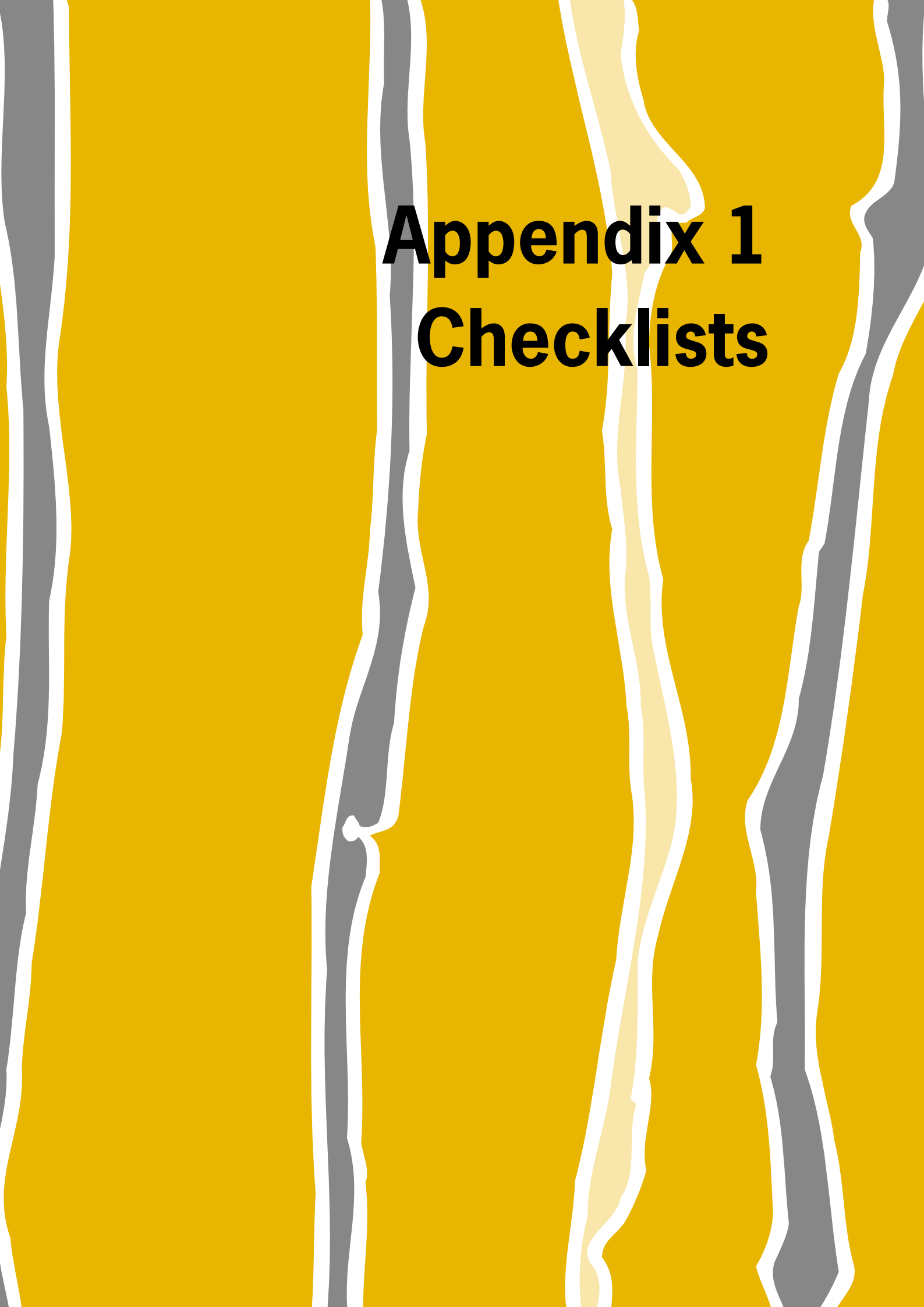
The monitoring of the real environmental impact of the project - and that planned measures are actually put into effect – should be done together with other forms of monitoring of the project during the implementation stage. Forms for monitoring are determined within the framework of the project. One good way of monitoring the environmental impacts is to use a number of well-selected indicators (see page #)

3.7 Evaluation

The evaluation of the positive and negative environmental impacts of the project should be made both during the implementation stage and in connection with the finalisation of the project in order to learn from experience gained. This should be done together with other evaluations of the project. Indicators to follow the development of the positive and negative environmental impacts of the project, which should have been defined at an early stage in the project planning phase, are also important tools in the evaluation of the project.

Some key factors for environmentally appropriate project implementation, monitoring and evaluation:

- The EIA must contain relevant background data, preferably in the form of indicators (see following points). It should be possible to follow up and evaluate results against these indicators.
- Measures to eliminate or minimise negative environmental impacts must have clearly defined goals and indicators, and these must be included in the project documents and in agreements.
- Goals for the project's positive contributions to environmentally sustainable development and indicators in respect of these goals must be well defined, and they must be included in the project documents and agreements.
- Funds for the implementation of measures and for the achievement of predetermined goals must be included in the project budget, as well as funds for monitoring the implementation of necessary measures and the environmental impact of the project.
- The responsibility for implementing measures and the responsibility for monitoring that measures are taken must be defined in the project documents and agreements.
- Needs of local capacity building to ensure satisfactory implementation and monitoring should be identified in the EIA and funds for capacity building should be allocated in the project budget.



Appendix 1

Checklists

General questions



The following questions are of a general character and should always be gone through in reviews of EIAs for projects that will have a significant impact on the environment. Specific questions are given in the checklists for specific sectors in the next section, which starts on page 39.

Remember that a checklist can never be complete. It cannot replace your own judgement of the project proposal in question.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Defining the scope of the EIA

A very important stage in the EIA process is the definition of its scope. If it is made too narrow, it can have the effect that significant impacts on the environment are not included in the assessment. Are the following questions answered in the EIA?

- Is the definition of the scope of the EIA presented and is it reasonable?
- Are reasons presented for the environmental aspects selected for study?
- Are reasons presented for the environmental aspects not selected for study?
- Are the qualifications and experience of the person making the EIA presented? They should be relevant for the areas that have to be covered.
- Is a description provided of the geographical delimitation of the area that may be exposed to environmental impacts? Has consideration been given to the borders of area under impact? What global, regional or national impact can they give?
- How far does the EIA extend into the future? Are long-term impacts also included?

The EIA process

- When was the EIA made? Is it still up-to-date (it should not be older than five years)?
- Have the stakeholders¹⁴ concerned been identified and involved in the process?
- Have steps been taken to ensure that participatory methods will be used in the planning, in which in particular the needs of vulnerable groups will be taken into consideration?
- Are meetings/talks with stakeholders, for example the local population, reported in the EIA document?
- Are the results of meetings recorded? Is a description provided of the way in which points of views presented in meetings have been received? Are, for example, minutes of the meetings attached to the EIA document?
- Is use being made in the planning process of knowledge of the environment possessed by the local population or others affected (men, women, children)?
- Are there plans to include environment-related components, for example training in environmental issues, in connection with the project?
- Have applicable laws and regulations been identified and described, and have relevant agencies and institutions, both central and local, been consulted (for example in the fields of the environment, health, and preservation of historical sites)?

14. In this context the stakeholders (NGOs, CBOs) include not least the local population. Bear in mind that different groups in the community can be affected in different ways.

The arrangement of the EIA document

- Does the summary reflect the content of the report?
- Is the information logically arranged and are references made to external sources?
- Is the information given objective and neutral?
- Is a description given of current legislation on EIAs and the environment?
- Are diagrams, tables, maps and pictures comprehensible and relevant?
- Is a brief description given of the project (aim, starting-up phase, winding-up phase, selection of technology)?
- Is a description given of any possible additional exploitation as a consequence of the project?
- Is the present situation described in a sufficiently extensive manner?
- Is a scenario presented which describes what could be imagined if Sida chooses not to give support to the planned activity (zero alternative)?
- How many alternatives are described to achieve the purpose(s) of the project?
- Are the alternatives different in respect of their impact on the environment?
- Are the environmental impacts of the alternatives clearly and objectively compared with impacts of the zero alternative?
- Are there indicators that can be used for monitoring etc to document the progress of the project?

Project area and present situation

- Is a description provided of the project area's environment, landscape, land use, water, air, cultural environment, natural resources, health status of people living there, flora, fauna, ecology, climate, sound (levels and types), recreation?
- Is a description provided of any ecologically significant or sensitive areas and any plant and animal species/races/types that may possibly be threatened?
- Are there any groups of people who are particularly sensitive to the intended change in their vicinity?
- Is the geographical area that has been defined in the EIA sufficiently large to permit the assessment of all significant impacts (for example catchment areas, topography, micro-climate, air streams)?
- Can protected areas or areas worthy of protection be affected (applies also to indirect impacts)?
- Has the country ratified international conventions that could apply to the project? For information on international environmental and natural resource conventions, reference should be made to UNEP's web-site on conventions www.unep.ch/conventions/.
- Is a description provided of the existing sources of information that have been used (and when the information was produced)?
- Is a description provided of any omissions and uncertainties that may exist in the description of the project area?

Impacts

- Is a clear picture given of the environmental impact of the project, its scope and significance?
- Are the positive impacts that are described reasonable?
- Have any positive environmental impacts been optimised, or can more be done?

- Are measures proposed that can optimise the positive impacts?
- Are the (negative) impacts that are described acceptable?
- Has a description been given of the impacts that will arise during the different phases of the project (design, construction and operation, or planning and implementation)?
- Are the expected impacts on the environment irreversible?
- If there is a lack of clarity in respect of the environmental impacts and their scope, does the project proposal follow the precautionary principle (see EIA regulation, point 5)?
- Is a description given of the methods that have been used to assess the different impacts?
- Is there an economic discussion on the costs/benefits of the environmental impact? Will the project, for example, internalise the costs of impacts on people and the environment, such as loss of ecosystem services¹⁵ (so-called externalities) in the total costs of the project?
- Is a description given of any uncertainty in the assumptions made and in the material used to produce the EIA?
- Is there an assessment of the project's vulnerability/sensitivity, for example to natural disasters and acts of terrorism?
- Are specific proposals provided for the elimination or minimisation of negative environmental impacts (and, where necessary, measures for conflict resolution and compensation for damage) and proposals for optimising positive measures?
- Can the proposals for measures to be taken be further improved?

Monitoring

- Is the purpose of monitoring clearly described?
- Are there funds available for monitoring the environmental impacts of the project?
- Are there plans for how the impacts of the project and the actions taken to prevent damage can be measured and monitored, during the build-up phase of the project and after the project has been concluded?
- Are funds available in the project budget to implement measures and achieve established goals?
- Are there specific goals and indicators for the project's positive contributions to, and negative impacts on, environmentally sustainable development that are possible to integrate into the implementation and monitoring of the project, and are they included in the project document?
- Are they realistic in consideration of existing capacity and resources?
- Is the responsibility for the implementation of measures and for monitoring to ensure that measures are implemented defined in the project document or the EIA? This shall then be reflected in agreements.
- Are there plans for reports on monitoring?
- Have the needs of local capacity building for satisfactory implementation and monitoring been identified?

15. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

Evaluation

- Has an evaluation of the project been planned and have funds been allocated in the budget for this purpose?
- Will the project's positive and negative impacts on the environment be evaluated in connection with other evaluations of the project in order to learn from experience gained?
- Have specific goals and indicators been defined for the evaluation of the project's positive and negative contributions to environmentally sustainable development?

Review checklists – specific areas

Introduction



For questions of a general character that should always be gone through in a review of an EIA, refer to the checklist of general questions, page 35. The purpose of the checklists of specific area questions that are presented below is to provide suggestions for the type of questions that should be posed in the assessment of project proposals of different character. Many projects are composed of several components or refer to several areas. Therefore, often more than one checklist needs to be used. When using checklists, the easiest method would simply be to put a tick against those points taken up in the EIA. However, the person making the review must also ask his/her own questions that are relevant for the project in question. A checklist can never be complete and cannot replace your own judgement of the project proposal in question.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Use the checklists in the following way:

1. Has the question been taken up sufficiently in the EIA?
2. If not: could the environmental impact described arise in the project or programme in question? Bear in mind that both direct and indirect impacts shall be described.

There are also examples of indicators in the checklists. More information on these indicators and how they can be used is to be found in the section that starts on page 19.

The following checklists are included:

Agriculture (including livestock farming) and forestry	40
Water-related activities	44
Coastal zone-related activities	49
Dams	54
Energy	59
Transport and communications	63
Building and construction works	67
Waste management	71
Quarrying and underground mining	75
Industry	79
Trade and Commerce	83
Tourism	86
Health and medical care	90
Humanitarian assistance	93
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Agriculture (including livestock farming) and forestry

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Sida's support to agriculture and forestry is often provided in the form of sub-components in broad rural development programmes that have a strong focus on poverty. Sida provides support in the following areas, among others:

- management of natural resources – for example, support to projects in land management, high productive and low productive areas, biodiversity and water resources
- capacity building – for example, strengthening the capacity of agricultural or forest institutions, local authorities, universities and small-scale farmers
- research, development and capital goods – for example research, advisory/counselling services, seeds, soil fertility and rural credits.



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions, for example the Climate Convention¹⁶ or POPs¹⁷?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material¹⁸ whose impact on the environment is as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- contribute to ecological and social disruptive activities, such as extensive use of pesticides etc, or will it contribute to a situation in which ecological and social activities are implemented in a manner that preserves resources and is not disruptive?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for sustainable development in the field of agriculture and forestry?
- give the local population the responsibility for managing the natural resources used locally?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services¹⁹ (so-called externalities), in the total costs of the project?

16. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

17. The Stockholm Convention on Persistent Organic Pollutants (POPs). For more information, see <http://irptc.unep.ch/pops/>.

18. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

19. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been finalized?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example their possibilities to move or to use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- affect the present use and ownership rights of land?
- affect the capacity of the local population to spread risks or their capacity to handle crises, for example the possibilities available to them to cultivate alternative crops or make a living in another way if their main livelihood or their main source of food is threatened, for example by drought or floods?
- involve the risk of accidents that can have consequences for human beings and the environment in the area?
- involve the risk that diseases, for example bilharzia, malaria or HIV/Aids, will be spread, or will it have other impacts on health, for example as a consequence of pollution or sanitary conditions?

Cultural environment

Will the project...

- extend the mapping of valuable cultural environments and plan for their use and preservation?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect closely connected environments of special value, including cultural landscapes?
- reduce accessibility to and make it difficult to use cultural environments or lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

Will the project...

- affect important or sensitive ecosystems (for example areas covered by natural vegetation)?
- affect natural biological diversity (wild and cultivated) by threatening, favouring or protecting plant or animal species, races or strains? Will, for example, a red-listed/threatened species or any other type of so-called key species be affected – or any commercially or culturally important species? Here consideration should also be given to whether diversity within a functional group (group of species with a similar role in the ecosystem such as grazing animals or nitrogen-fixing organisms) will be

reduced drastically since it can mean that the ecosystem would become more vulnerable.

- affect the sustainable use of wild and cultivated biological diversity?
- contribute to or counteract the introduction of new species in areas where they do not belong naturally?
- involve a large or small risk of plant or animal diseases being spread to cultivated or wild species?
- create barriers and disturb natural migration routes for animals and the spread of plants?
- make good use of and/or increase local and national knowledge of biological diversity? Is, for example, the knowledge of biological diversity possessed by the local population put to use in the EIA?
- include local participation in the management of biological diversity?
- affect access to and the equitable distribution of gene resources and knowledge of biological diversity²⁰, for example the use of local genetic resources in the form of seeds?
- involve a large or small risk that genetically modified organisms or genes from organisms from this type will be spread²¹?

Land, water and air

Will the project...

- affect the quality of land, for example lead to soil erosion, high levels of salinity in the soil or lead to areas being waterlogged; or will it lead to improvements in areas of this type? Have studies been made of the existing topography, vegetation and precipitation in the area, which make it possible for the risk of erosion, for example, to be estimated and reduced?
- have an effect on land that is sensitive to drying up or erosion? Are, for example, the proposed farming methods adapted to the area and thereby sustainable?
- lead to damage to the land as a result of felling activities, other mechanical activities (for example road construction), overgrazing or movements of livestock; or will it lead to reductions in this type of damage to the land?
- affect the use of plant nutrients (above all nitrogen and phosphorus) which, if used incorrectly, can possibly leak and cause eutrophication, for example in water courses and lakes?
- affect the quality of, and access to, surface water and groundwater, locally or regionally? Has, for example, a study been made of levels of groundwater in the area? Is there a risk that the groundwater will diminish or be polluted by the project?
- lead to more surface run-off and less infiltration as a consequence of unsuitable farming methods (soil compaction), or counteract effects of this type?
- lead to an increase or reduction in discharges of carbon dioxide, methane and other greenhouse gases that contribute to increasing global warming?

20. If this is the case, is a description provided of relations to local, national and international agreements and legislation on biological diversity? Is there, for example, national and local approval of access to genetic material as laid down in the Convention on Biological Diversity (www.biodiv.org), i.e. that stakeholders such as indigenous populations and local farmers are aware of and have granted access (*Prior Informed Consent, PIC*) and that this has taken place through agreements based on mutually agreed terms (*Mutual Agreed Terms, MAT*)? Is there a guarantee that genetic resources will not be exploited without agreements of this kind?

21. If this is the case, is a description provided of relations to local, national and international agreements and legislation on biosafety? Are there, for example, effective national legislation and control mechanisms in respect of biosafety? Do these follow the Biosafety Protocol (www.biodiv.org/biosafety/) under the Convention on Biological Diversity? Effective legislation and mechanisms for biosafety should be in place before Sida finances GMO contributions.

Chemicals and waste management

Will the project...

- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as certain pesticides (for example DDT, dieldrin, aldrin and heptachlorine)?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally outside the project area, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or will it reduce risks of this types?
- develop measures to ensure that any sludge, nutritive salts, latrine waste or other forms of waste are returned to an ecocycle or are taken care of in an environmentally acceptable manner?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

Support for capacity building (including related research)

- Is knowledge of the environment integrated into capacity building programmes?

Support for agricultural and forest activities

- Consumption of different types of chemicals, collection and treatment of residual chemicals and other types of waste (tonnes, % production, description).
- Intensity/amount of water use (% use of available water resources). What proportion of farming land is irrigated, for example?
- Changes in land use (hectares, description).
- Electrical conductivity in water (indicates quantities of dissolved salts).
- Number of animals per hectare (number of cows, goats, sheep, antelope etc). Suitable number depends on the type of environment and the type of animal in question, and can differ considerably between different areas (animal/hectares).
- Proportion of forest land that has been converted into, for example, agricultural land. Rate of conversion?
- Proportion of replanted forest land.
- Phosphorus – as phosphorous loss, for example kg phosphorus/hectare and year. Gives an indication of the amounts of nutrients entering recipient water courses.
- Nitrogen – as nitrogen loss, for example kg N/hectare per year gives an indication of the amount of nutrients in recipient water courses.

Water-related activities

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Sida gives priority to support for water-related activities in a number of areas. These include:

- IWRM (Integrated Water Resources Management), which includes support for improving planning, developing institutional capacity, raising awareness, policy development, legislation and research
- cooperation in respect of shared water resources (with the aim of counteracting conflicts and promoting security between different users, locally, nationally, regionally and internationally)
- methods to counteract and control pollution of water resources
- increasing the supply of safe drinking water, integrated with health aspects and ecological sanitation, through fair distribution and sustainable use of water
- ecological sanitation based on minimised pollution, economical use of water resources and recirculation
- inclusion of training in health, for example in water and sanitation projects
- methods to make the use of water in agriculture more efficient
- sustainable use of wetlands and coastal areas.

There is a great potential for positive environmental impacts in the water sector since many projects have the aim of creating a sustainable and more equitable use of resources and improving water quality and sanitation conditions in the partner country.



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the Dublin Principles²² and the Ramsar Convention²³?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material²⁴ whose impact on the environment is as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- contribute to ecological and social disruptive activities, such as dams that can constitute barriers, or will it contribute to the implementation of ecological and social activities in a manner that preserves resources and is not disruptive?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the sector?

22. *Dublin Principles*. 1) Fresh water is a finite and vulnerable resource essential to sustain life, development and the environment. 2) Water development and management should be based on a participatory approach involving users, planners and policy makers at all levels. 3) Women play a central part in provision, management and safeguarding of water. 4) Water has an economic value in all its competing uses and should be recognised as an economic good.

23. The Ramsar Convention (www.ramsar.org) has the goal of conserving wetlands of international importance.

24. Sida has produced guidelines for environment-friendly procurement: “*Sida’s Policy for Green Procurement – for Cooperating Partners – 2002*”.

- give the local population the responsibility for managing the natural resources used locally?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and the environment, such as loss of ecosystem services²⁵ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example their possibilities to move or to use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- affect the present use of the area and ownership rights of the land?
- involve the risk of accidents that can have consequences for human beings and the environment in the area,
- involve the risk that diseases, for example bilharzia, malaria or HIV/Aids, may be spread, or will it have other effects on health, for example as a consequence of pollution or sanitary conditions?
- lead to disturbing sound and noise during the different phases of the project (design, construction and operation)? This also includes traffic to and from project activities.
- lead to changes in prevailing odours? This situation can be affected, for example, by the design and location of sanitary facilities.
- include training in health? This applies particularly to water and sanitation projects.

Cultural environment

Will the project...

- extend the mapping of valuable cultural environments and plan for their use and preservation?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old constructions such as roads, bridges, dams, terraces etc?
- affect environments of particular value, including cultural landscapes?
- reduce accessibility to and make it difficult to use cultural environments, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

25. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

Biological diversity

- Will the project...**
- affect important or sensitive ecosystems (for example areas that are covered by natural vegetation), or restore ecosystems of this type?
 - affect natural biological diversity (wild and cultivated) by threatening, favouring or protecting plant or animal species, races or strains? Will for example a red-listed/threatened species or any other type of so-called key species be affected - or any commercially or culturally important species? Here consideration should also be given to whether diversity within a functional group (group of species with a similar role in the ecosystem such as grazing animals or nitrogen-fixing organisms) will be reduced drastically since it can mean that the ecosystem would become more vulnerable.
 - affect the sustainable use of wild and cultivated biological diversity?
 - contribute to or counteract the introduction of new species in areas where they do not belong naturally? Channelling water to new areas can, for example, lead to the risk that species are spread/transmitted to these areas.
 - create barriers and disturb natural migration routes for animals and the spread of plants?
 - involve a larger or smaller risk that plant or animal diseases are spread to cultivated or wild species?
 - make good use of and/or increase local and national knowledge of biological diversity? Is, for example, the knowledge of biological diversity possessed by the local population put to use in the EIA?
 - include local participation in the management of biological diversity?

Land and water

- Will the project...**
- divert water from natural water courses with the effect that the supply of water decreases considerably downstream or that the supply varies considerably and unpredictably?
 - take into consideration fluctuations in the flow of water due, for example, to seasonal variations?
 - have the result that the supply and/or quality of surface water or groundwater increases or decreases, locally or regionally? This can be affected, for example, by discharges of cooling water or by the damming up of running water, as well as by other measures such as combating vegetation by grinding water vegetation or combating other types of abnormal organic material. Has, for example, the groundwater supply in the area been surveyed? Is there a risk that the groundwater will be reduced or polluted by the project?
 - lead to an increase/decrease in surface run-off and changes in infiltration?
 - affect the quality of land, for example lead to high levels of salinity in the soil or cause the area to be waterlogged, or will it lead to improvements in areas of this type?
 - have an impact on land that is sensitive to erosion? Has a study been made of the prevailing topography, vegetation and precipitation levels in the area that can enable the risk of erosion to be estimated, and reduced?
 - affect the use of plant nutrients (above all nitrogen and phosphorus) which, if used incorrectly, can possibly leak and cause eutrophication, for example in water courses and lakes? An increase in irrigation can, for example, lead to an increase in the use of plant nutrients.

Chemicals and waste management

Will the project...

- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as mineral oils and certain pesticides used against algae and water hyacinths?
- involve a greater or smaller risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or will it reduce risks of this types?
- develop measures to ensure that any sludge, nutritive salts, waste from latrines or other forms of waste are returned to an ecocycle or are taken care of in an environmentally acceptable manner?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

Support for capacity building, policy development and the development of methods

- Are environmental aspects (in the wide sense of the term) integrated in activities (for example in the form of training, or in plans and policies)?

Support for watershed management

- Land use changes (e.g. hectares, description).
- Soil erosion rates (e.g. tonnes/hectare and year).
- Changes in groundwater level.
- Proportion of land covered by forest.

Support for the improvement of water supplies or quality

- Annual freshwater extraction for various activities (domestic, agricultural, industrial etc).
- Number of persons/households with access to safe drinking water.
- Water losses/unaccounted for water in, for example, mains supplies.
- Production, collection, treatment and recycling of sludge, nutritive salts or other waste products (kg, % of generated waste etc).
- POPs (Persistent Organic Pollutants). POPs include, for example, DDT, PCB and organic compounds with heavy metals. Measurements of fish tissue give an indication of pollution from industries, agriculture etc. *continues* →



- Thermostable coliform bacteria – gives an indication of effects caused by sewage from humans and animals. Also indicates that there can be other bacteria in the water, e.g. cholera.
- Oxygen status – low levels of oxygen indicate low levels of biological activity.
- Phosphorus – as phosphorous loss, for example kg phosphorus/hectare and year. Gives an indication of the amounts of nutrients entering recipient water courses.
- Nitrogen – as nitrogen loss, for example kg nitrogen/hectare and year. Nitrogen can be measured as ammonium nitrogen, nitrate nitrogen, nitrous nitrogen or total nitrogen. The type of nitrogen pollution gives an indication of the condition of the water (nutrients, oxygen). Also gives an indication of the amounts of substances that stimulate growth. The nitrogen/phosphorus ratio gives an idea of the substances that should be avoided in discharges to permit the deterioration of water quality to be as small as possible.

Coastal zone-related activities



Many of the earlier contributions for marine and coastal zone development have primarily focused on certain areas, for example fishing, mineral extraction and development of urban infrastructure. Today, the contributions are focusing increasingly on greater participation and engagement on the part of local communities, responsibility for the environment and integrated coastal planning.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the UN Convention on the Law of the Sea, and the agreements on transboundary fish stocks, and the Convention on Biological Diversity²⁶?
- include components relating to coastal zone planning, legal issues connected with coastal zone planning, and/or more efficient execution of the laws that govern planning of this type?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material²⁷ whose impacts on the environment are as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- contribute to ecological and social disruptive activities, such as shrimp farming or mass tourism, or will it contribute to the implementation of ecological and social activities in a manner that preserves resources and is not disruptive?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the sector?
- give the local population the responsibility for managing the natural resources used locally?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and envi-

26. The aims of the Convention on Biological Diversity are the conservation and sustainable use of biological diversity (global ecosystems, all species of plants, animals, fungi and micro-organisms and genetic variations within the species) and the fair and equitable sharing of the benefits arising from the sustainable use of genetic resources (www.biodiv.org).

27. Sida has produced guidelines for environment-friendly procurement: “Sida’s Policy for Green Procurement – for Cooperating Partners – 2002”.

ronment, such as loss of ecosystem services²⁸ (so-called externalities), in the total costs of the project?

- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- include extensive, real participation of the local population affected by the project in all stages of selection and alternatives and in the planning, design, implementation of projects in the coastal zone? This also includes the decision-making process that is expected to be based on local participation and in a transparent and just manner.
- include training and/or contribute to greater understanding of preventing and solving problems related to the environment and promote sustainable development in a cross-sector perspective? If so, will both women and men be included in the training programmes?
- include other forms of human resource development, as well as methods development related to the environment and sustainable development?
- change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a result, for example, of pollution of sanitary conditions and/or patterns of behaviour?
- affect the living conditions of the local population (settled and nomadic groups), for example their possibilities to move or use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- lead to migration into or from the project area, for example lead to increased urbanisation?
- lead to the risk of accidents that can have consequences for people and the environment in the vicinity?
- lead to conflicts resulting from the land's present use or ownership rights? Are there plans to minimise and resolve conflicts of this type in the best possible way?
- use the knowledge possessed by the local population on the area in question to ensure that the project contributes to environmentally sustainable development?
- include the development of tourism, which can have a negative or positive impact on the environment?

28. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

Cultural environment

- Will the project...**
- extend the mapping of valuable cultural environments and plan for their use and preservation?
 - affect sites of archaeological interest and places of historic value?
 - affect cult centres or other places of religious and ethnic significance?
 - affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
 - affect integrated environments of special value, including cultural landscapes?
 - reduce accessibility to and make it difficult to use the cultural environment, or will it lead to improvements in these respects?
 - lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
 - document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

- Will the project...**
- affect important or sensitive ecosystems (for example aquatic ecosystems and areas that are covered by natural vegetation), or will it restore ecosystems of this type? Impacts on ecosystems in naturally flooded areas (for example deltas), wetlands, mangrove forests and other coastal areas should be taken into consideration.
 - affect natural biological diversity (wild and cultivated) by threatening, promoting or protecting plant or animal species, races or strains? Will, for example, mangrove stands and coral reefs be affected negatively or positively? Will, for example, a red-listed/threatened species or any other type of so-called key species be affected - or any commercially or culturally important species? Here consideration should also be given to whether diversity within a functional group (group of species with a similar role in the ecosystem such as grazing animals or nitrogen-fixing organisms) will be reduced drastically since it can mean that the ecosystem would become more vulnerable.
 - affect the sustainable use of wild and cultivated biological diversity as well as the local improvement of species and local acquisition of knowledge? Will, for example the risk of over-fishing increase or decrease, i.e. will the extraction of fish exceed natural reproduction?
 - contribute to or counteract the introduction of new species in areas where they do not belong naturally?
 - create barriers and disturb natural migration routes for animals and the spread of plants? Will the project, for example, prevent or make it easier for migratory fish to reach their reproduction areas or migratory birds to find resting places or places where they can search for food?
 - involve an increase or reduction in the risk of plant or animal diseases being spread to cultivated or wild species (e.g. by shrimp farming or water regulation)?
 - make good use of and/or increase local and national knowledge of biological diversity? Is for example the knowledge of biological diversity possessed by the local population put to use in the EIA?
 - include local participation in the management of biological diversity?

- involve an increase or decrease in the risk that genetically modified organisms or genes from organisms of this type are spread²⁹?
- affect productive ecosystems negatively, or will it contribute to maintaining the ecosystems' production?

Land, water and air

Will the project...

- affect the quality of land, for example lead to soil erosion, high levels of salinity in the soil or lead to areas being waterlogged, or will it lead to improvements in areas in this type?
- contribute to reducing or increasing erosion in coastal areas, for example beaches, cliffs and coral reefs?
- lead to activities that can result, for example, in making the water turbid, in the destruction of coral reefs or mangrove forests, in the agitation of the bottom sediment, etc? Does the project include, for example, the extraction of lime (for example from coral reefs) or the extraction of sand and gravel in riparian and coastal zones?
- divert water from natural water courses so that the water supplies that are important for fauna and flora are diminished considerably in the river's estuary?
- have a negative impact on water quality, for example through discharges of cooling water or by the damming up of running water?
- have the result that more or less material is transported to the sea via rivers and other water courses?
- lead to emissions of such a type that the water at the bottom or near the bottom becomes deficient in oxygen, for example through the emission of nutritive salts that stimulate biological over-production which then consumes oxygen when being broken down, or through discharges of organic material such as fibres and suchlike?

Chemicals and waste management

Will the project...

- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as antibiotics in shrimp farms?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or reduce risks of this types?

29. If this is the case, is a description provided of relations to local, national and international agreements and legislation on biosafety? Are there, for example, effective national legislation and control mechanisms in respect of biosafety? Do these follow the Biosafety Protocol (www.biodiv.org/biosafety/) under the Convention on Biological Diversity? Effective legislation and mechanisms for biosafety should be in place before Sida finances GMO contributions.

- develop measures to ensure that any sludge, nutritive salts, waste from latrines or other forms of waste are returned to an ecocycle or are taken care of in an environmentally acceptable manner?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Integration of environmental aspects (in the wide sense of the term) in activities (e.g. in the form of training, campaigns, or in plans and policies).
- Change in the proportion of the population/surface unit that live in the coastal zone.
- Population growth of a sensitive species.
- Discharges of nutritive salts (nitrogen and phosphorus).
- Quantity of disease-generating organisms in the drinking water.
- Proportion of unexploited coast.
- Area covered by mangrove forest and, if possible, the degree of fragmentation in this area.

Dams

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Dam construction can have various purposes, for example irrigation, generation of electricity, control of water supplies, flood control or a combination of these. A small dam can primarily have local impacts while a large dam in a water course that is important for the supply of water downstream can have regional impacts. If the dam is important for the country's energy supply, it is also important to look at the national consequences.

In Sida's Energy Policy of 1996, it is stated that hydropower plants with large dams³⁰ should be avoided unless the EIA clearly states that the environmental impacts are manageable and that the movements of people resulting from the construction of the plant will only have small negative socioeconomic consequences. Sida's policy for integrated water resource management also lays down that the construction of large dams is a low priority area.

Sida intends to continue to support the development of legislation, rules, institutions etc in partner countries in order to permit the treatment and development of dams to take place in an acceptable and transparent manner that is democratic and takes the economy and the environment into consideration.

The values laid down in the report of the World Commission on Dams (WCD)³¹ are shared in principle by Sida and they correspond well with Sida's objective of reducing poverty. The conclusions of the WCD correspond in essentials with Sida's rules and guidelines. Sida should therefore follow, as far as possible, the recommendations for planning, construction and resettlement given by the WCD in its report.

Where dams are concerned, there is a great difference between the environmental impact in the construction phase and in the operations phase.



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions, for example the Ramsar Convention³²?
- recommend the selection of material³³ that whose impact on the environment is as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- contribute to ecological and social disruptive activities, or will it contribute to the implementation of ecological and social activities in a manner that preserves resources and is not disruptive?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?

30. According to the International Commission on Large Dams (ICOLD), large dams are defined as dams whose walls are at least 15 metres high, or dams that are 5-15 metres high and have a reservoir volume of more than 3 million m³.

31. The World Commission on Dams (WCD) has made an evaluation of the impact of dams on the environment. This checklist is mainly based on the results of this work. The final report is available on the Internet: www.dams.org.

32. The Ramsar Convention (www.ramsar.org) has the objective of conserving wetlands of international importance.

33. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the project area?
- give the local population the responsibility for managing the natural resources used locally?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services³⁴ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- include extensive and real participation of the local population in all stages of selections and alternatives and in the planning, design, construction and management of dams? This also includes the decision-making process, which is expected to be based on local participation and to take place in a transparent and just manner.
- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or use natural resources inside or outside the actual project area? How will the people living downstream be compensated, i.e. those who are dependent on fishing, regular supplies of water, water for irrigation purposes etc?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- move the people now living in the project area³⁵ and, if so, how will they be compensated, for example in the form of new places to live and of opportunities to develop economically and socially?
- affect the present use of the area and ownership rights?
- change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a result of pollution of sanitary conditions and/or patterns of behaviour?
- lead to disturbing noise during the various stages of the project (design, construction and operation phases)? This also includes traffic to and from the activity and noise from, for example, turbines and larger volumes of traffic.

34. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

35. Forced resettlement of people should naturally be avoided by investigating all conceivable project alternatives. The identity of many ethnic groups is closely associated with the land and the nature where they live, and it may be impossible to compensate people who have been resettled in a meaningful way. If resettlement and compensation are approved by the parties concerned, the project should follow OECD DAC's "Guidelines for Aid Agencies on Involuntary Displacement and Resettlement in Development projects".

- have an impact on the possibility to listen to positive, agreeable sounds, for example from rapids and waterfalls?
- lead to an increase in the risk of accidents (e.g. collapse of dam walls) that can have consequences for people and the environment in the vicinity? Are there emergency plans for accidents and disasters?

Cultural environment

Will the project...

- extend the mapping of valuable cultural environments and plan for their use and preservation?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of particular value including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

Will the project...

- affect important or sensitive ecosystems (for example aquatic ecosystems and areas that are covered by natural vegetation), or will it restore ecosystems of this type? Impacts on ecosystems upstream and downstream in natural flooded areas (for example deltas), wetlands, and neighbouring river systems should be taken into consideration.
- affect natural biological diversity (wild and cultivated) by threatening, promoting or protecting plant or animal species, races or strains? Will for example a red-listed/threatened species or any other type of so-called key species be affected – or any commercially or culturally important species? Here consideration should also be given to whether diversity within a functional group (group of species with a similar role in the ecosystem such as grazing animals or nitrogen-fixing organisms) will be reduced drastically since it can mean that the ecosystem would become more vulnerable.
- affect the sustainable use of wild and cultivated biological diversity?
- create barriers and disturb natural migration routes for animals and the spread of plants?

It has proved to be difficult to get measures designed to prevent damage to function properly, particularly in respect of land, biodiversity and wild animals. Even passages to be used by fish have functioned badly. Good measures to prevent damage can be achieved through good information, cooperation at an early stage with ecologists, dam technicians, and the people who will be affected by the dam. There is also a need for continuous feedback and monitoring of the consequences and of the effectiveness of the measures.

Land and water

Will the project...

- affect the speed of sedimentation and erosion? Have the topography, vegetation, cultivation methods and precipitation patterns in the area been studied so that, for example, the rate of sedimentation and the degree of erosion can be estimated, and decreased?
- take care of excavated material in an appropriate way?
- affect the quality of the surface water and groundwater, for example through discharges of cooling water or the damming up of flowing water, as well as other measures such as combating vegetation through the grinding of water vegetation or combating other abnormal types of organic material?
- lead to a situation in which surface or groundwater increases or diminishes, locally or regionally? Has, for example, the amount of groundwater in the area been surveyed? Is there a risk that the groundwater will decrease or be polluted as a result of the project?
- change the natural transport of nutrients (has the current situation been surveyed)?
- lead to problems of eutrophication in the reservoir?
- lead to leakage of oxygen-deficient water downstream?
- result in cumulative negative or positive consequences on water quality and natural flooding?

Chemicals and waste management

Will the project...

- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating? Will, for example, use be made of sealing chemicals or pesticides to combat water hyacinths? What are these chemicals and pesticides?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or reduce risks of this types?
- develop measures to ensure that any sludge or other forms of waste are returned to an ecocycle or are taken care of in an environmentally acceptable manner?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Integration of environmental aspects (in the wide sense of the term) in activities (e.g. in the form of training, campaigns or in plans and policies).
- Proportion of the population that live in areas that will be flooded.
- Changes in land use (hectares, description).
- Number of people that will be affected. How many of them belong to ethnic minorities/indigenous peoples?
- Number of cases of disease, for example of typhoid fever, cholera, dysentery, bilharzia, malaria and/or sleeping sickness.
- Changes in water flows (average, max, min).
- Changes in catches of fish that are important for the local population, or of other aquatic organisms of importance for the livelihoods of the local population.
- Number of people that have to be (forcibly) resettled (see footnote no. 35 on forced resettlement).
- Extent (number of species and/or individuals) of the loss of threatened species for the region/country/area.

Energy



Swedish development cooperation in the field of energy has the aim of promoting economically and environmentally sound energy systems. Every contribution shall be seen from a holistic perspective and be placed in the country's total and long-term energy supply.

The following areas are given priority:

- development of regulations
- human resource and organisation development
- making energy efficient
- new, sustainable sources of energy
- direct contributions that focus on the target group.

The projects supported by Sida are both large-scale (e.g. power plants) and small-scale and can be in both urban and rural areas (e.g. rural electrification). Where projects that include the construction of dams and/or power plants are concerned, the checklists for water-related activities and dams shall also be reviewed.

The environmental impact of the project depends on whether its focus is on energy production, distribution and/or measures to make energy efficient. In general, however, deterioration or improvement of the quality of air (air pollution) is an important aspect of projects in the area.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the Climate Convention³⁶ and the Montreal Protocol³⁷?
- increase or reduce the use of fossil fuels?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material³⁸ whose impacts on the environment are as small as possible, for example poles or posts of impregnated wood or of concrete for power lines?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced, for example renewable sources of energy?
- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for sustainable development in the energy sector?

36. The objective of the Climate Convention (<http://unfccc.int/>) is to stabilise greenhouse gases in the atmosphere at a level that limits climate change. One important part of the work of living up to the objective of the convention is to invest in renewable energy, which is part of Sida's Energy Policy. (See also footnote no. 16.)

37. The Montreal Protocol on ozone-depleting substances now regulates 96 chemicals in the following groups: CFCs, other CFCs, HCFCs, halons, carbon tetrachloride, 1,1,1 trichloroethane, methyl bromide, HBFC and bromochloromethane. Emissions of these chemicals increase the hazardous insolation of UV rays that can cause skin cancer and blindness among grazing animals. For more information see www.unep.ch/ozone/index-en.shtml.

38. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services³⁹ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide solely short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or use natural resources inside or outside the actual project area?
- move the people now living in the project area⁴⁰ and, if so, how will they be compensated, for example in the form of new places to live and opportunities to develop economically and socially?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- affect the present use of the area and ownership rights?
- have the impact that people are exposed to strong electromagnetic fields? Is, for example, consideration being given to this in the location of transformers? Are situations in which human settlements end up under power lines to be avoided?
- lead to risks for accidents that can have consequences for people and the environment in the area?
- lead to the risk that diseases such as bilharzia, malaria or HIV/Aids will be spread, or that there will be other impacts on health as a result of pollution, construction materials, sanitary conditions and/or establishment of slums?
- have an impact on the possibilities available to people to listen to positive, agreeable sounds?
- lead to disturbing noise for people or animals?
- change the prevailing situation where odours are concerned?

Cultural environment

Will the project...

- extend the mapping of valuable cultural environments and plan for their use and preservation?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?

39. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

40. Forced resettlement of people should naturally be avoided by investigating all conceivable project alternatives. The identity of many ethnic groups is closely associated with the land and the nature where they live, and it may be impossible to compensate people who have been resettled in a meaningful way. If resettlement and compensation are approved by the parties concerned, the project should follow OECD DAC's "*Guidelines for Aid Agencies on Involuntary Displacement and Resettlement in Development projects*".

- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

Will the project...

- make use of, or make significant changes to, important or sensitive ecosystems (for example areas that are covered by natural vegetation), or will it restore ecosystems of this type?
- increase natural biological diversity by promoting and protecting plant and/or animal species, or will it reduce diversity by discouraging and threatening ecosystems and species?
- contribute to or counteract the introduction of new species in areas where they do not belong naturally?

Land, water and air

Will the project...

- lead to more surface run-off and less infiltration as a consequence of unsuitable farming methods, or counteract impacts of this type?
- increase or reduce the risk of erosion? Have the topography, vegetation, cultivation methods and precipitation patterns in the area been studied in order to permit, for example, the risk of erosion to be estimated, and decreased?
- lead to damage to the land as a result of mechanical activities (e.g. road construction) or lead to reductions in this type of damage to the land?
- affect the quality of surface and groundwater? Has, for example, a description been provided of how drainage from the road will function?
- have the impact that access to surface and groundwater will increase or decrease, locally or regionally? Has, for example, a study been made of levels of groundwater in the area? Is there a risk that the groundwater will diminish or be polluted by the project?
- lead to the emission of gases or dust that can affect air quality? Will the project lead to an increase or reduction in emissions of carbon dioxide, methane and other greenhouse gases which have an impact on global warming, and/or lead to an increase or decrease in the emission of ozone-depleting substances (which influence the harmful insolation of UV rays, which can cause skin cancer and blindness in grazing animals)?

Chemicals and waste management

Will the project...

- develop measures to ensure that any sludge, nutritive salts, waste from latrines or other forms of waste (e.g. construction material) are returned to an ecocycle or are taken care of in an environmentally acceptable manner?
- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as PCB and mineral oils?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally outside the project area, for example by air, water or food chains?

This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.

- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Are environmental aspects (in the wide sense of the term) integrated in the activities (e.g. in the form of training, campaigns, or in plans and policies).
- Proportion of electricity produced with fossil fuels (including nuclear power) in relation to flowing or renewable sources of energy such as wind, sun, waves and water.
- Emission of greenhouse gases (tonnes/year).
- Proportion of the population that has access to electricity.
- Energy consumption/capita.

Transport and communications



Transport is defined as the movement of people or goods. Infrastructure is the facilities that exist for transport and travel. The facilities can be in the form of roads, harbours, airports, railways and mains (e.g. for electricity, gas or water). Bear in mind that they can have attendant impacts such as gravel pits, water pumps, wastewater treatment plants, concentrators and sludge dams. Where projects resulting from transport and communications are concerned, refer to relevant checklists.

Sida's support in the area of transport gives priority to the following fields:

- restructuring and organisational changes in the public sector
- rehabilitation and maintenance of roads and bridges
- development of alternative road construction methods (adapted technologies)
- capacity building
- road safety programmes
- public transport systems.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the Climate Convention⁴¹ and the Montreal Protocol⁴²?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material⁴³ whose negative impacts on the environment are as small as possible, for example selection of materials for road surfaces?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for sustainable development in the sector?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁴⁴ (so-called externalities), in the total costs of the project?

41. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

42. The Montreal Protocol on ozone-depleting substances now regulates 96 chemicals in the following groups: CFCs, other CFCs, HCFCs, halons, carbon tetrachloride, 1,1,1 trichloroethane, methyl bromide, HBFC and bromochloromethane. Emissions of these chemicals increase the hazardous insolation of UV rays that can cause skin cancer and blindness among grazing animals. For more information see www.unep.ch/ozone/index-en.shtml.

43. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

44. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- include the development of sustainable transport methods, for example integrated traffic planning, with the aim of maximising the use of public transport?
- constitute barrier effects for people and animals? Make the use of traditional cattle trails difficult, for example?
- affect road safety? Will, for example, the risk of accidents, which can have consequences for people and the environment in the area, increase or decrease? Will the project result in, for example, making it possible to transport toxic or explosive substances which, if involved in accidents, can constitute a risk for people and the environment? Are safe crossings being planned in road construction activities?
- affect access to previously inaccessible areas with important or sensitive groups of people or ecosystems?
- have attendant exploitation effects (e.g. settlements beside the road, or roads in order to have access to electricity lines)?
- affect the present use and ownership rights of land?
- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move, to work or to use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a consequence of the building of slums, of pollution or sanitary conditions, and/or patterns of behaviour?
- Lead to disturbing noise for people or animals? Will the project have an impact, for example, on the possibilities available to people to listen to positive, agreeable sounds?

Cultural environment

Will the project...

- extend the mapping of valuable cultural environments and plan for their use and preservation?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?

- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

Will the project...

- create barriers or disrupt natural migration paths for animals and for the spread of plants? Will the project, for example, prevent or make it easier for migratory fish to reach their reproduction areas, or for migratory birds to find places to rest and to search for food?
- affect important or sensitive ecosystems (for example areas that are covered by natural vegetation), or will it restore ecosystems of this type?
- affect natural biological diversity (wild and cultivated) by threatening, promoting or protecting plant or animal species, races or strains?
- contribute to or counteract the introduction of new species in areas where they do not belong naturally?
- involve an increase or reduction in the risk of plant or animal diseases being spread to cultivated or wild species?

Land, water and air

Will the project...

- lead to damage to the land as a result of mechanical activities (e.g. road construction), or will it lead to a reduction in this type of damage to the land?
- increase or reduce the risk of erosion? Have the topography, vegetation, cultivation methods and precipitation patterns in the area been studied in order to permit, for example the risk of erosion to be estimated, and decreased?
- affect the quality of surface and groundwater? Has, for example, a description been provided of how drainage from the road will function?
- have the effect that access to surface and groundwater will increase or decrease, locally or regionally? Has, for example, a study been made of the supply of groundwater in the area? Is there a risk that the groundwater will diminish or be polluted by the project?
- lead to the emission of gases or dust that can affect air quality? Will the project lead to an increase or reduction in emissions of carbon dioxide, methane and other greenhouse gases which have an impact on global warming, and/or lead to an increase or decrease in the emission of ozone-depleting substances (for example coolants such as CFCs)?

Chemicals and waste management

Will the project...

- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as mineral oils, coolants, insecticides and PVC?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for

- their families, or for the people living in the area, or reduce risks of this types?
- develop methods to ensure that any waste (e.g. construction material) is returned to an ecocycle or is taken care of in an environmentally acceptable manner?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Transport volumes.
- Air quality (sulphur oxide, soot particles, NOX etc).
- Road safety.
- Fuel quality.
- Noise levels.
- Vehicle types and condition (environmentally classified vehicles).

Building and construction works



In Sida's programmes of development cooperation, buildings are often planned and constructed for various purposes, for example in health, education and public administration programmes. Pure construction works are mainly to be found in water-related contributions, dams, energy and transport contributions, and should be examined with the checklists for each specific area.

When making an environmental impact assessment, consideration must be given to both the construction phase and the operations phase. Bear in mind that building and construction works can have associated impacts such as gravel pits, water pumps, wastewater treatment plants and sludge dams. Refer to relevant checklists for any projects of this type.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the Climate Convention⁴⁵ and the Montreal Protocol⁴⁶?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material⁴⁷ whose negative impacts on the environment are as small as possible, for example which minimises the use of environmentally hazardous construction materials such as solvents, heavy metals and wood impregnating agents, and which totally avoid asbestos?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination at both central and local level for sustainable development in the sector?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁴⁸ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide short-term economic gains and that do not

45. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

46. The Montreal Protocol on ozone-depleting substances now regulates 96 chemicals in the following groups: CFCs, other CFCs, HCFCs, halons, carbon tetrachloride, 1,1,1 trichloroethane, methyl bromide, HBFC and bromochloromethane. Emissions of these chemicals increase the hazardous insolation of UV rays that can cause skin cancer and blindness among grazing animals. For more information see www.unep.ch/ozone/index-en.shtml.

47. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

48. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

give consideration to long-term sustainable development and the livelihoods of future generations?

- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?
- plan for the economical use of energy, for example through climate-adapted construction techniques and reduced needs of energy for cooling and/or heating?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or to use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- affect the present use and ownership rights of land? Will the project lead, for example, to conflicts over the use of land?
- change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, the risk of accidents, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a consequence of inferior building materials, of pollution, or of sanitary conditions, and/or patterns of behaviour?

Cultural environment

Will the project...

- extend the mapping of valuable cultural environments and plan for their use and preservation?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

Will the project...

- affect important or sensitive ecosystems, for example areas that are covered by natural vegetation, or will it restore ecosystems of this type?
- affect natural biological diversity (wild and cultivated) by threatening, promoting or protecting plant or animal species, races or strains? Will for example a red-listed/threatened species or any other type of so-called key species be affected - or any commercially or culturally important species? Or will new species be introduced in the area, which is not their natural home?
- create barriers or disrupt natural migration paths for animals and for the spread of plants?

Land, water and air

- Will the project...**
- balance excavated materials and use waste rock for construction purposes?
 - increase or reduce the risk of erosion? Have the topography, vegetation, cultivation methods and precipitation patterns in the area been studied to permit, for example the risk of erosion to be estimated, and decreased?
 - lead to damage to the land as a result of felling, explosions or other mechanical activities (e.g. road construction), or will it lead to a reduction in this type of damage to the land?
 - affect the quality of surface and groundwater? Has, for example, a description been provided of how drainage from the road will function?
 - have the impact that the availability of surface and groundwater will increase or decrease, locally or regionally? Has, for example, a study been made of levels of groundwater in the area? Is there a risk that the groundwater will diminish or be polluted by the project?
 - have impacts on land and water that can lead to the disappearance of the natural flora and fish species from nearby lakes and water courses? Is this described in the EIA?
 - lead to the emission of gases or dust that can affect air quality? Will the project lead to an increase or reduction in emissions of carbon dioxide, methane and other greenhouse gases which have an impact on global warming, and/or lead to an increase or decrease in the emission of ozone-depleting substances (e.g. coolants such as CFCs)?

Chemicals and waste management

- Will the project...**
- contribute to an increase in the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as mineral oils, coolants, insecticides and PVC?
 - include waste harmful to both the environment and to health (toxic, not easily degradable and/or bio accumulating)? Are there plans for how this waste shall be taken care of?
 - develop methods to ensure that any waste (for example household waste and construction material) is returned to an ecocycle or are taken care of in an environmentally acceptable manner?
 - involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products. Can this mean that large areas are exposed to chemicals?
 - contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
 - involve acute and/or long-term health hazards for persons handling chemicals and waste, for their families, or for the people living in the area, or reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Degree of environment-friendly building materials.
- Quantities of waste and types of waste (waste that is harmful to health and the environment should be kept separate).
- Degree of recycling of waste and for what purposes (per cent of all waste produced).
- Size of the area contaminated by hazardous waste.
- Proportion of the funds earmarked for waste management.

Waste management



Depending on where it is generated, waste can be broken down into, for example, household waste, industrial waste and hospital waste. In all these categories there are fractions that constitute hazardous waste as well as organic waste, and it can consist of mixed or homogenous waste.

The objective of support to this area should be to reduce the quantities of waste, increase the degree of recycling and develop sustainable solutions to the waste problem.

Sida can support the following: institution development, raising awareness, technical studies and pilot projects. Support can be given, for example, in the form of training programmes, exchanges of experience and expert support in the field of waste planning and policy development.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the Climate Convention⁴⁹, the Montreal Protocol⁵⁰, the Basle Convention⁵¹ and the London Convention⁵²?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material⁵³ whose negative impacts on the environment are as small as possible
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between ministries and government agencies responsible at both central and local level for sustainable development in the sector?
- give the local population the responsibility for managing the natural resources that they use locally?

49. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

50. The Montreal Protocol on ozone-depleting substances now regulates 96 chemicals in the following groups: CFCs, other CFCs, HCFCs, halons, carbon tetrachloride, 1,1,1 trichloroethane, methyl bromide, HBFC and bromochloromethane. Emissions of these chemicals increase the hazardous insolation of UV rays that can cause skin cancer and blindness among grazing animals. For more information see www.unep.ch/ozone/index-en.shtml.

51. The objectives of the Basle Convention are control and reduction of transports of environmentally hazardous waste between countries, secure disposal of environmentally hazardous waste and support to developing countries for environmentally acceptable waste management.

52. The aim of the London Convention is to prevent the dumping of environmentally hazardous waste at sea.

53. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁵⁴ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or to use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- affect the present use and ownership rights of land? Will the project lead, for example, to conflicts over the use of land (for example farming land)?
- change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, the risk of accidents, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a consequence of pollution, or of sanitary conditions, and/or patterns of behaviour? Has a description been provided of the health problems that will exist after the project? Does the general public have access to the landfills?
- handle the problems with, for example, odours, rats, flies and other insects?
- deal with any possible cultural taboos, for example against storing waste indoors (pending collection) or against allowing persons to enter a backyard in order to collect waste?

Cultural environment

Will the project...

- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?

54. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

Biological diversity

Will the project...

- affect important or sensitive ecosystems, for example areas that are covered by natural vegetation, or will it restore ecosystems of this type? Have, for example, the sites of possible landfills been described? It is important that landfills do not lie in the vicinity of, for example, mangrove forests and wetlands or other ecologically sensitive areas.
- contribute to or counteract the introduction of new species (animals, birds and insects) into the area, which is not their natural home?

Land, water and air

Will the project...

- use relevant cleaning technologies in respect of, for example, such as aerated dams, leached water circulation, active sludge, bio-beds, bio-filters, anaerobe filters or irrigation?
- affect the quality of surface or groundwater, for example by leached water leakage?
- include taking care of leached water? Has a description been given of where the leached water from waste tips ends up? Leached water usually contains organic material, iron, heavy metals, and possibly toxic substances that have been tipped.
- have impacts on land and water such as eutrophication and an increase in the consumption of oxygen in both surface water and groundwater? Are these phenomena studied in the EIA?
- have impacts on land and water that can lead to the disappearance of the natural flora and fish species from nearby lakes and water courses? Is this described in the EIA?
- contribute to the greenhouse effect? When waste is broken down without oxygen, methane and carbon dioxide are formed. Both these gases contribute to the greenhouse effect (methane approximately twenty times more than carbon dioxide per volume unit). Does the project include methods to reduce this?
- involve the incineration of waste which emits acid gases (such as hydrochloric acid, sulphur oxides and nitric oxides) and/or polyaromatic hydrocarbons and dioxins that are harmful to health? Does the project include methods to reduce emissions?

Chemicals and waste management

Will the project...

- include waste harmful to both the environment and to health (toxic, not easily degradable and/or bio accumulating)? Are there plans for how this waste shall be taken care of?
- keep different types of waste separate, depending on their properties?
- utilise possibilities for recycling or incineration for energy purposes?
- develop measures to ensure that any sludge, nutritive salts, waste from latrines or other types of waste, for example household waste and construction material, are returned to an ecocycle or are taken care of in an environmentally acceptable manner?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products. Can this mean that large areas are exposed to chemicals?
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or

waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?

- involve acute and/or long-term health hazards for persons handling chemicals and waste, for their families, or for the people living in the area, or reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Amount of waste and types of waste (e.g. household, building and industrial waste — waste that is hazardous to health and the environment should be separated).
- Degree of recycling and for what purposes (per cent of the total amount produced).
- Amount of household waste generated per capita.
- Size of the area contaminated by hazardous waste.
- Proportion of funds allocated to waste management.
- Amount of leached water (landfills). How is it treated? (Chemical analysis of leached water).
- For incineration plants – controls of flue gases and quantities of ash and how they are taken care of.

Quarrying and underground mining



The biggest difference between quarrying and underground mining is that, where mining is concerned, a concentration plant must be used. A decision must also be reached on whether the mining should be done in the form of open cast mining or underground mining. One of the greatest environmental problems of mining is the leakage from sludge dams. Another major problem is contaminated pump water from mining operations.

The most common processes in mining are: drainage, stripping, construction of access roads, drilling, blasting, sorting ore and waste rock, crushing ore (sometimes also pre-crushing), transport to a concentration plant, and finally concentration. When mining operations are discontinued, there are the processes of rehabilitation and restoration.

Examples of associated effects that a mine can give rise to are: access roads, water pumps, treatment plants, concentrators, sludge dams from both the concentrator and the mine, power station (main lines, distribution lines and feeder lines). Refer to relevant checklists for associated projects.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- take into consideration in the planning process any other mining operations in the vicinity, which can lead to cumulative impacts on the environment?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material⁵⁵ whose negative impacts on the environment are as small as possible, such as diesel or electrically powered vehicles?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between ministries and government agencies responsible at both central and local level for sustainable development in the sector?
- give the local population the responsibility for managing the natural resources that they use locally?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁵⁶ (so-called externalities), in the total costs of the project?

55. Sida has produced guidelines for environment-friendly procurement: “Sida’s Policy for Green Procurement – for Cooperating Partners – 2002”.

56. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or to use natural resources inside or outside the actual project area?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- affect the present use and ownership rights of land? Will the project lead, for example, to conflicts over the use of land (e.g. farming land)?
- change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, the risk of accidents, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a consequence of pollution or sanitary conditions, and/or patterns of behaviour? Will the risk for landslides and explosions increase?
- have toxic impacts on workers and people living in the vicinity, for example cyanide poisoning in the case of gold mining?
- have the impact that the sludge dams dry up at some time during the year (can lead to wind erosion and have the impact that workers and people living in the neighbourhood are exposed to the dust which is usually harmful to health and the environment)?
- lead to the dispersion of dust and dust-absorbing agents?
- create barrier effects? How, for example, shall the area be fenced in?
- affect the current use of the land and ownership rights?
- cause disturbances as a result of vibration? Vibrations can also cause subsidence and weaken houses and other buildings in the neighbourhood.
- lead to an increase in (heavy) transport on access roads?

Cultural environment

Will the project...

- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

- Will the project...**
- affect important or sensitive ecosystems, for example areas that are covered by natural vegetation, or restore ecosystems of this type?
 - affect natural biological diversity (wild and cultivated) by threatening, promoting or protecting plant or animal species, races or strains?
 - create barriers or disrupt natural migration paths for animals and for the spread of plants? Will the project for example prevent or make it easier for migratory animals to reach their reproduction areas or for migratory birds to find resting places and places where they can search for food?

Land, water and air

- Will the project...**
- lead to permanent damage to the land? Can, for example, sources of water supply be restored? Are there plans and funds available for restoration/rehabilitation when mining operations are discontinued?
 - lead to an increase in the risk of landslides and subsidence?
 - affect land that is sensitive to drought and erosion? Will the project, for example, lead to the drainage of any surrounding wetlands?
 - affect the quality of surface and groundwater through the runoff of mining or process water or leakage from the sludge dams? Has a calculation been made of flows of water in the mine (quality and quantity of water in and out)?
 - have the impact that access to surface and groundwater increases or decreases, locally or regionally? Has, for example, a study been made of the supply of groundwater in the area? Is there a risk that the groundwater level will rise or fall or that the groundwater will be polluted by the project?
 - lead to acid water containing heavy metals entering the environment, which can lead to toxic consequences for both human beings and animals?
 - deal with the leakage of untreated mine water or leakage of leached water from, for example waste rock deposits?
 - increase the risk of sludge dams bursting as a result of incorrect dimensioning? Is the safety margin sufficient?
 - take care of the leakage of nitrogen to water and air from explosives?
 - lead to the emission of gases or dust that can affect air quality? Will the project lead to an increase or reduction in emissions of carbon dioxide, methane and other greenhouse gases which have an effect on global warming?

Chemicals and waste management

- Will the project...**
- include the handling of waste and chemicals harmful to both the environment and to health (toxic, not easily degradable and/or bio accumulating), for example certain chemical sealants and mineral oils? Does the project include, for example, the extraction of sulphur and coal (where pyrite can be formed as a by-product)?
 - take measures to ensure that any sludge, nutritive salts, waste from latrines or other types of waste, for example petroleum products, are returned to an ecocycle or are taken care of in an environmentally acceptable manner? Small particles can end up in the groundwater or in water courses, and thereby affect flora and fauna.
 - involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the

- destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals or for their families, or for the people living in the area, or reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Mine water flows (quantity and quality in and out).
- Leached water flows (quantity and quality).
- Changes in land use (in open cast mining).
- Proportion of funds allocated for waste management.
- Degree of recycling of waste.
- Quantity of hazardous waste generated.

Industry



Where industry is concerned, Sida mainly provides support for capacity development in sector organisations, chambers of commerce and government agencies. The support can refer, for example, to the introduction of environmental management systems, to improve knowledge of better, sustainable technologies ("clean production") and network building in order to increase the exchange of information. Support is provided relatively rarely for individual industries. In EIAs consideration must be given to both the construction and operating phases.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- follow or contravene relevant international agreements and conventions such as the Climate Convention⁵⁷ and the Montreal Protocol⁵⁸?
- reduce or increase the country's dependence on imports of certain products? What are these products and what consequences do they have for the environment? Are there, for example, pollutants in raw materials that can lead to environmental problems?
- recommend the selection of material⁵⁹ whose negative impacts on the environment are as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- include research and/or methods development related to the environment and sustainable development?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁶⁰ (so-called externalities), in the total costs of the project?

57. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

58. The Montreal Protocol on ozone-depleting substances now regulates 96 chemicals in the following groups: CFCs, other CFCs, HCFCs, halons, carbon tetrachloride, 1,1,1 trichloroethane, methyl bromide, HBFC and bromochloromethane. Emissions of these chemicals increase the hazardous insolation of UV rays that can cause skin cancer and blindness among grazing animals. For more information see www.unep.ch/ozone/index-en.shtml.

59. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

60. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or use natural resources inside or outside the actual project area? How are the planned construction activities (buildings, landfills, roads) located in relation to existing settlements?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- lead the risk of accidents that can have consequences for people and the environment in the vicinity? Are there plans for dealing with accidents?
- affect the present use of the area and ownership rights?
- lead to projects in other sectors associated with the industrial project (e.g. infrastructure)?
- have access to sufficient water and energy supplies? Will, for example, water resources be sufficient for both people and industries?
- lead to disturbing noise during the construction and operating phases? This also includes traffic to and from the activity.
- contain training inputs so that, for example, the maintenance of machines functions properly in the future?
- lead to risks that diseases such as bilharzia, malaria or HIV/Aids are spread, or to other impacts, for example as a result of pollution of sanitary conditions?
- change the prevailing situation in respect of odours?

Cultural environment

Will the project...

- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

Will the project...

- affect important or sensitive ecosystems, for example areas that are covered by natural vegetation, or will it restore ecosystems of this type? Have, for example, the sites of possible landfills been described? It is important that landfills do not lie in the vicinity of, for example, mangrove forests and wetlands or other ecologically sensitive areas.

- contribute to or counteract the introduction of new species (animals, birds and insects) into the area, which is not their natural home?

Land, water and air

Will the project...

- use efficient processes that utilise raw materials, energy, chemicals and water as effectively as possible?
- discharge process waste water or cooling water that is warmer than the water in the recipient water course?
- discharge water with another pH value than that in the recipient water course?
- affect the quality of surface and groundwater? Has, for example, a description been provided of the quantities of wastewater from processes of different types, and the content and quantity of relevant pollutants, that are expected to be discharged into the recipient water courses?
- have the impact that access to surface and groundwater increases or decreases, locally or regionally? Has, for example, a study been made of the supply of groundwater in the area? Is there a risk that the groundwater will diminish or be polluted by the project? Will the situation of the recipient water courses be changed? Where are the discharge points located in relation to the extraction of water by the local population? Are the quantities sufficient for both existing activities (including household consumption) and planned new activities?
- lead to increased or reduced emissions of gases or dust that can affect the environment locally, regionally or globally such as toxic heavy metals or organic substances, ozone-depleting substances (which affect the harmful insolation of UV light that can cause skin cancer and blindness in grazing animals)?
- use relevant cleaning technologies for discharges into the air and water?
- affect the quality of land, for example at landfills for waste?

Chemicals and waste management

Will the project...

- include waste that is harmful to the environment and health? How will the waste be taken care of?
- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste or contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals or for their families, or for the people living in the area, or reduce risks of this types?
- develop measures for recycling industrial waste such as sludge, solvent residues, and waste containing metals in an ecocycle or be taken care of in an environmentally acceptable way?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Are environmental aspects (in the wide sense of the term) integrated in the activity (in the form of training, campaigns, or in plans and policies)?
- Is there a control programme for the activity that, for example, includes measurements of emissions into the air and water, waste management, maintenance of equipment, fire and disaster drills?
- Quantity of environmentally hazardous waste and other waste as well as the further handling and processing of different types of waste, including recycling.
- Consumption of raw materials, chemicals, water and energy.
- Changes in land, air and water quality.
- Changes in land use (area and description).
- Proportion of funds allocated for waste management.

Trade and commerce

Sida's activities for private sector development include the following:

- development of the institutional framework, support for trade and industry organisations, legislation, capital supply and public administration
- trade promotion contributions, export training, acting as an intermediary between companies, import guarantees, cooperation with international organisations
- reform of publicly-owned companies, incorporation, privatisation, changes in ownership structures
- human resource development for entrepreneurs, increasing the level of knowledge in trade and industry in areas such as management, quality assurance, industrial environment and export expertise
- alliances between companies in Sweden and in the partner countries, the Start-South and Start-East programmes that have the aim of creating contacts
- economic cooperation.

We distinguish between **direct** environmental consequences as a result of physical activities such as the construction of buildings, production of materials and transports, and **indirect** environmental consequences that concern the way in which the project is fundamentally in line with sustainable development.

Non-industrial trade normally does not have significant direct environmental consequences. However, it is of importance that the EIA takes up the extent to which the focus and the strategy are in line with the overall goal of environmentally sustainable development.

To provide a complete picture of the impacts on the environment arising from support for trade and private sector development, this checklist should be combined with other checklists, for example those for transport and communications and institution development and capacity building, as well as for the specific area in which the activities will be implemented.

If the building of houses and latrines, infrastructure etc is included in the programme, other relevant checklists shall be reviewed.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- encourage and lead to more discussion, exchange of information, and coordination between ministries and government agencies responsible at both central and local level for sustainable development in the sector?
- include research and/or methods development related to the environment and sustainable development?
- follow or contravene relevant international agreements and conventions such as the Climate Convention⁶¹, the Montreal Protocol⁶² and CITES⁶³?

61. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

62. The Montreal Protocol on ozone-depleting substances now regulates 96 chemicals in the following groups: CFCs, other CFCs, HCFCs, halons, carbon tetrachloride, 1,1,1 trichloroethane, methyl bromide, HBFC and bromochloromethane. Emissions of these chemicals increase the hazardous insolation of UV rays that can cause skin cancer and blindness among grazing animals. For more information see www.unep.ch/ozone/index-en.shtml.

63. CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) prohibits (and in certain cases regulates) international trade in endangered species.

- recommend the selection of material⁶⁴ whose negative impacts on the environment are as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- introduce systems for quality assurance such as ISO 14001, ISO 9000, EMAS and FSF?
- introduce environment-friendly technologies, environment-friendly construction techniques and the use of renewable resources?
- encourage or discourage production and trade in environment-friendly goods, for example environmentally certified products?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- contribute to creating alliances for the transfer of know-how with environment-friendly companies in Sweden, which can lead to a reduction in negative impacts on the environment?
- result in organisational changes that can lead to an increase or reduction in environmental focus/expertise?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁶⁵ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

- Will the project...**
- include environment training programmes and other forms for the transfer of knowledge within the framework of the project?
 - raise awareness of the environmentally hazardous content of products?

Transport

- Will the project...**
- develop sustainable transport methods (for example integrated traffic planning) with the aim of maximising the use of public transport?

Trade promotion activities

- Will the project...**
- promote environment-friendly production, trade and consumption of goods and services as a component of the project?

64. Sida has produced guidelines for environment-friendly procurement: “*Sida’s Policy for Green Procurement – for Cooperating Partners – 2002*”.

65. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Are environmental aspects (in the wide sense of the term) integrated in the activity (in the form of training, campaigns, or in plans and policies)?
- Are environmentally strategic components included and are they monitored?
- Number and proportion of environmentally certified companies (number, per cent).

Tourism

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

To give a complete picture of the impacts of a tourist project on the environment, this checklist should be combined with other checklists, for example water-related activities, transport and communications, building and construction works, waste management, energy and coastal zones.



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- introduce limits on the number of tourists that may stay in the area at any one time, on the basis of its capacity to absorb tourists⁶⁶? Has this capacity been defined?
- contribute to ecologically and socially disruptive activities, such as mass tourism, or will it contribute to the implementation of ecological and social activities in a way that preserves resources, for example ecotourism, or measures to prevent damage such as channelling mass tourism?
- recommend the selection of material⁶⁷ whose negative impacts on the environment are as small as possible, for example in the selection of building materials?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- include research and/or methods development related to the environment and sustainable development?
- provide new investment opportunities that will lead to an increase or a reduction in environmental protection, as a result of economic incentives?
- have the impact that alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are developed and introduced?
- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the forest sector?
- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁶⁸ (so-called externalities), in the total costs of the project?

66. I.e. how large the tourist sector can be in its planned form without degrading the area or other areas affected.

67. Sida has produced guidelines for environment-friendly procurement: “Sida’s Policy for Green Procurement – for Cooperating Partners – 2002”.

68. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the livelihoods of future generations?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- lead to a risk that diseases (such as bilharzia, malaria or HIV/Aids) are spread, or have other impacts on health, for example as a result of pollution, building materials, sanitary conditions or the emergence of slums?
- lead to the risk of an increase in the use of drugs?
- lead to a risk that the local community will be exploited (sexually or as a labour force)?
- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or use natural resources inside or outside the actual project area? Are, for example fish and other resources that the local community is dependent on protected?
- affect livelihoods or groups in society that are already threatened and/or under pressure?
- lead to the movement of people from or into the project area?
- lead to conflicts resulting from the present use and ownership rights of the land?
- facilitate access to previously inaccessible areas with important or sensitive sections of the population and/or ecosystems?
- lead to capacity development (including training in environmental issues) in the environmental field, such as waste management and the management of natural resources, for the local community, tourists and others, and thereby spread this knowledge to other parts of society?

Cultural environment

Will the project...

- intensify the mapping and surveying of valuable cultural environments and plan for their use and preservation?
- take into consideration and emphasise the cultural values of the place when new building and constructions works are being planned and implemented?
- affect sites of archaeological interest and places of historic value?
- affect cult centres or other places of religious and ethnic significance?
- affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
- affect environments of special value, including cultural landscapes?
- reduce accessibility to, and make it difficult to use, the cultural environment, or will it lead to improvements in these respects?
- lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?
- document the original conditions before valuable cultural environments are obliterated or changed in a decisive way?

Biological diversity

- Will the project...**
- make use of, or make significant changes to, important or sensitive ecosystems (for example areas that are covered by natural vegetation or coral), or will it restore ecosystems of this type? Is there a risk that there will be an increase in the collection of souvenirs (coral, shells, butterflies, plants etc.)?
 - increase natural biological diversity through promoting and protecting plant and/or animal species?
 - disturb natural migratory routes and affect territory in respect of animal life?
 - affect important or sensitive ecosystems? Are there basic data on fauna, flora and ecosystems in the areas that can come into question for exploitation?

Land, water and air

- Will the project...**
- affect the quality of surface and ground water? Has, for example, a description been provided of how the wastewater from tourist facilities will be handled? Are there proposals for economical use of resources and/or recycling?
 - have the impact that access to surface and groundwater increases or decreases, locally or regionally? Has, for example, a study been made of levels of groundwater in the area? Is there a risk that the groundwater will diminish or be polluted by the project? Is the quantity available sufficient for both existing activities (including household consumption) and planned new activities?
 - affect land that is sensitive to drying out and erosion? Are there basic data on the land situation, availability of groundwater and surface water in the areas that may be considered for exploitation?
 - lead to damage to the land as a result of more transport, felling, construction activities (including roads) or other mechanical effects?
 - exploit new areas (for example wetlands, coral reefs, forests, other unique areas or areas that are culturally, historically and archaeological important)? If so, are there plans for land use? Are the development plans based on an inventory of the resources?

Energy

- Will the project...**
- produce systems for saving energy and recycling?
 - maximise the use of renewable sources of energy?

Chemicals and waste management

- Will the project...**
- include waste that is hazardous to the environment and to health? How will the waste be handled?
 - develop methods to ensure that any waste from latrines, building works or other forms of waste are returned to an ecocycle or are taken care of in an environmentally acceptable manner?
 - contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating, such as swimming pool cleaning agents?
 - involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
 - contribute to a situation in which untrained personnel handle chemicals and/or

hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?

- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Integration of environmental aspects (in the wide sense of the term) in activities (e.g. in the form of training, campaigns or in plans and policies).
- Number of tourists per year (% of resident population).
- Consumption of resources (electricity, water etc).
- Changes in transport.
- Degree of recycling.
- Quantity of waste produced.
- Amount of hazardous waste generated.
- Changes in the quality of land, air and water.
- Changes in the use of land and water.
- Preserved and suitably used cultural environment.

Health and medical care

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Sida's support to the health sector focuses on three main areas:

- sector reform support – which partly includes the development of health systems and partly consists of support for policy processes, for example education and medicines, which have both a direct and indirect impact on the environment
- sexual and reproductive health and rights, and children's health and rights
- public health – including capacity building and information dissemination, and physical construction.

If the construction of houses and latrines, infrastructure etc is included in the programme, other relevant checklists shall also be reviewed.



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the sector?
- recommend the selection of material⁶⁹ whose negative impacts on the environment are as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- include consideration of factors that have an impact on the environment in connection with the establishment of health stations, clinics or hospitals (water and energy supplies, waste management, sewage disposal etc)?
- contribute to spreading antibiotics and other medicines or chemical compounds that have an impact on biological life?
- follow or contravene relevant international agreements and conventions, for example WHO's global strategy for health and the environment⁷⁰?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- include human resource development and methods development in the health context that is related to the environment and sustainable development and/or contribute to increasing understanding of the prevention and solution of environment-related problems and promote sustainable development in a cross-sector perspective?
- include environmental hygiene and environment-related diseases in curricula in connection with the education and training of health and medical personnel?

69. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

70. WHO's global strategy for Health and the Environment takes up relationships between health and environmentally sustainable development. The strategy decrees the establishment of mechanisms that will guarantee cooperation between agencies and organisations in all sectors that have responsibilities for health and the environment.

- include children, women and men in the education and training activities? If so, what aspects should be given special attention?
- otherwise promote knowledge on the environment and the significance for health of impacts on the environment? Will this greater knowledge make it possible for people to relate questions of health and the environment to the situation in their own local communities and thereby demand that responsibilities are shouldered and that resources are provided to remedy problems, for example knowledge of hygiene, the importance of clean water, the construction of latrines etc?
- include special cultural characteristics where health and medical care are concerned?
- affect those groups in society that are already threatened and/or under pressure?

Cultural environment

- Will the project...**
- create awareness in the sector on the value of the cultural environment and the cultural values that are often to be found in old buildings and parks in the medical services?

Chemicals and waste management

- Will the project...**
- include waste that is hazardous to the environment and to health? How will the waste be handled?
 - develop methods to ensure that any waste from latrines, building works or other forms of waste are returned to an ecocycle or are taken care of in an environmentally acceptable manner?
 - draw up plans/routines for the secure handling of infected materials?
 - contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating?
 - involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
 - contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
 - involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or will it reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Consumption of resources (electricity, water etc).
- Proportion of households with access to sanitary facilities (toilets, waste disposal, washing facilities).
- Proportion of houses with access to “safe water”.
- Degree of recycling.
- Amount of waste produced.
- Amount of hazardous waste generated.
- Proportion of funds allocated to waste management.
- Child mortality.

Support given to capacity building, policy development and methods development

- Are environmental aspects (in a wide sense of the term) integrated into the activity (for example in the form of education and training, or in plans and policies)?

Support for the use and dissemination of pharmaceuticals, construction and repair of buildings, control of factors that cause injuries or spread diseases, and health care

- Consumption, collection and processing of chemicals and other waste products (tonnes, %, description).

Humanitarian assistance

Sida's work with humanitarian assistance includes:

- monitoring conflicts in a large number of countries, even those outside Sida's group of partner countries, in order to be prepared to assess any needs of humanitarian assistance that may arise
- assessing, monitoring and evaluating contributions from the appropriation for disaster relief, as well as disaster relief contributions financed by other appropriations
- conducting a dialogue with the parties that provide humanitarian assistance, in Sweden and internationally
- initiating the provision of strategic resources, for example in the field of mine clearance, through a dialogue with different organisations.

The following questions have been compiled particularly with assistance to refugees in mind. They can also be used in general in connection with disaster relief and other forms of humanitarian assistance. There can be significant differences in EIAs for emergencies and for "permanent" refugee camps.

The checklist should be supplemented with other checklists, for example building and construction works, health care and waste management.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the forest sector?
- recommend the selection of material⁷¹ whose negative impacts on the environment are as small as possible, for example biologically degradable materials etc? Have the project's transports been planned as effectively as possible and can the need for transport be reduced? Are the stoves that have been selected efficient from the energy point of view?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- use environmental economic analysis in calculations relating to project finances? Will the project, for example, internalise costs of impacts on human beings and the environment, such as for example the loss of ecosystem services⁷² (so-called externalities) in the total costs of the project?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

71. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

72. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

Human beings

- Will the project...**
- affect the living conditions of the local population (settled and nomadic groups), for example the possibilities available to them to move or to use natural resources inside or outside the actual project area?
 - affect livelihoods or groups in society that are already threatened and/or under pressure?
 - affect the present use and ownership rights of land? Will the project lead, for example, to conflicts over the use of land (for example farming land)?
 - counteract conflicts between ethnic groups and between refugees and the local population? Are there plans for dealing with any possible conflicts between ethnic groups and refugees?
 - change the health status of people living in the vicinity, who move into the area or must move away? Will there be an increase or decrease in, for example, the risk of accidents, cases of poisoning, and the spread of diseases such as HIV/Aids, typhus, cholera, dysentery, bilharzia, malaria and sleeping sickness as a consequence of pollution, or of sanitary conditions, and/or patterns of behaviour? Has a description been provided of the health problems that will exist after the project? Does the general public have access to the landfills (cases of poisoning, spread of diseases, risks for landslides etc)?
 - lead to risks for the exploitation of minors (sexually and for labour force purposes)?
 - include human resource development and methods development in the health context related to the environment and sustainable development and/or contribute to increasing understanding for the prevention and solution of environment-related problems and promote sustainable development in a cross-sector perspective?
 - include environmental hygiene and environment-related diseases in curricula in connection with the education and training of health and medical personnel?
 - include children, women and men in the education and training activities? If so, what aspects should be given special attention?
 - otherwise promote knowledge on the environment and the significance of impacts on the environment for the health of people? Does this improvement in knowledge make it possible for people to relate questions of health and the environment to the situation in their own local communities and thereby demand accountability from those responsible and resources to remedy problems, for example knowledge of hygiene, the importance of clean water, the construction of latrines etc?
 - include special cultural characteristics and/or taboos in respect of education and health and medical care?

Cultural environment

- Will the project...**
- include protection of the cultural heritage in connection with disaster relief?
 - affect sites of archaeological interest and places of historic value?
 - affect cult centres or other places of religious and ethnic significance?
 - affect the preservation and sustainable use of old or valuable buildings as well as old structures such as roads, bridges, dams, terraces etc?
 - affect environments of special value, including cultural landscapes?
 - lead to irreversible consequences, for example demolishing buildings or building over archaeological discoveries or making other changes of this type?

Biological diversity

- Will the project...**
- make use of or make significant changes to important or sensitive ecosystems (for example areas that are covered by natural vegetation or coral), or will it restore ecosystems of this type?
 - increase natural biological diversity through promoting and protecting plant and/or animal species?
 - disturb natural migratory routes and affect the territories of animals?
 - affect important or sensitive ecosystems? Is there basic data on fauna, flora and ecosystems in the areas that can be considered for exploitation?

Land, water and air

- Will the project...**
- have the impact that access to and quality of surface water and groundwater increases or decreases, locally or regionally? Has, for example, a study been made of levels of groundwater in the area so that there is no risk that the groundwater will diminish or be polluted by the project? Is the quantity available sufficient for both existing activities (including household consumption) and planned supplies for refugees? Is there a risk that the use of water in the refugee camps will lead to a reduction in the supply of surface water or groundwater or that the quality of the water will be affected negatively? If so, have remedial measures been planned? Have plans been made to treat drinking water chemically or biologically?
 - affect land that is sensitive to drying out and erosion? Are there basic data on the land situation, availability of ground and surface water in the areas that may come into question for exploitation? Is there any risk that the activities of the refugee camps will lead to more surface run-off and less infiltration? If so, have remedial measures been planned?
 - lead to damage to the land as a result of more transports, felling activities, construction activities (including roads) or other mechanical effects?
 - affect current uses of the area? How will agricultural production in the area be affected? Are there plans for long-term land use/forest management in refugee areas in order, for example, to diminish the risk for over-extraction of fuel wood?
 - exploit new areas (for example wetlands, coral reefs, forests, other unique areas or areas that are culturally, historically and archaeological important)? If so, are there plans for land use? Are the development plans based on an inventory of the resources?

Energy

- Will the project...**
- encourage the use of energy-saving stoves, and cooking methods? Is, for example, corn being ground locally in an efficient way from the energy point of view? Is it possible to choose food bearing in mind the importance of minimising the consumption of energy in transport, packing, handling and cooking?
 - lead to an increase in the need for fuel wood? Is fuel wood provided in a sustainable way?
 - provide renewable sources of energy such as solar energy and wind energy?

Chemicals and waste management

- Will the project...**
- develop methods to ensure that waste from latrines, packaging materials, medicines etc is returned to an ecocycle or are taken care of in an environmentally acceptable

manner? Are latrines being planned on the basis of local traditions and how will latrines be looked after in order to avoid infections? Will food left-overs be recycled in hygienic composting systems?

- include facilities to deal with wastewater? Has a description been provided, for example, of the methods for wastewater treatment in the refugee camps? Have any proposals been made in respect of economic use and/or re-use of resources?
- include waste that is hazardous to the environment and to health? How will the waste be handled?
- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating?
- involve a large or small risk that chemicals and/or hazardous waste can be spread unintentionally, for example by air, water or food chains? This can occur through the use of, or on account of, poor storage facilities or inadequate facilities for the destruction of waste products.
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?
- involve acute and/or long-term health hazards for persons handling chemicals, for their families, or for the people living in the area, or reduce risks of this types?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

- Integration of environmental aspects (in the wide sense of the term) in activities (e.g. in the form of training, campaigns, or in plans and policies).
- Proportion of persons with access to clean and safe drinking water (%).
- Consumption of resources (electricity, water etc).
- Changes in transport.
- Degree of recycling.
- Amount of waste generated.
- Amount of hazardous waste generated.
- Changes in the quality of land, air and water.
- Changes in the use of land and water.

Education



We distinguish between environmental impacts that are the result of physical activities such as the construction of buildings, production of materials and transports, and indirect environmental impacts that relate to the way in which the project is basically in line with sustainable development.

Sida's support to the education sector focuses on three main areas:

- education reform – usually has only an indirect impact on the environment
- primary education – usually has only an indirect impact on the environment but, if the support includes the construction of schools and production of educational materials, there may be a direct environmental impact
- projects relating to primary education – for example the production and distribution of teaching aids, school buildings, curriculum development, can have both a direct and indirect environmental impact.

If the building of schools and latrines, infrastructure etc is included in the programme, other relevant checklists should also be reviewed.

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the sector?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material⁷³ whose negative impacts on the environment are as small as possible, for example the selection of building methods adapted to local conditions and locally produced materials for school buildings?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that the development of alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using natural resources are introduced?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- lead to a risk that diseases such as HIV/Aids, malaria or bilharzia will be spread, or have other impacts on health as a consequence of pollution, or of sanitary conditions?
- include human resource development and methods development in the health context, related to the environment and sustainable development?

73. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

- include education on the environment and sustainable development in an interdisciplinary holistic perspective, for example in education planning, development of information systems etc?
- promote the acquisition of knowledge, values and attitudes that are necessary for participation in the work of preventing and solving problems related to the environment?
- provide practical skills for the solution of local environmental and development problems?
- encourage or discourage local knowledge systems, for example in respect of natural resource management?
- have a potential positive or negative impact on the environment when the knowledge introduced is put into practice? (Particularly important in the case of support for vocational training.)
- include practical activities in teaching such as planting trees, measures to improve the soil and garden work?
- involve parents and others in practical activities?
- involve and make administrators, principals, teachers and others well acquainted with the goals of environmental education?
- specify project goals, i.e. the goals of programmes of human resource development in the environmental field?
- draw up plans for maintaining contacts with institutions and organisations regarding the environment goals?
- use relevant indicators and background data in the evaluation of whether the project fulfils the environmental goals?
- allocate funds for the development of environmental expertise in the project budget?

Cultural environment

- Will the project...**
- create awareness in the sector of the value of the cultural environment and the cultural values that are often to be found in old buildings and parks in the education system?

Land, water and air

- Will the project...**
- affect the quality of surface water and groundwater? Has, for example, a description been provided of how the wastewater from classrooms will be processed or how the question of supplies of fresh water will be solved?
 - have the impact that access to surface and groundwater will increase or decrease, locally or regionally? Has, for example, a study been made of the supply of groundwater in the area so that there is no risk that the groundwater will diminish or be polluted by the project? Is the quantity available sufficient for both existing activities (including household consumption) and planned new activities?

Chemicals and waste management

- Will the project...**
- develop methods to ensure that waste from latrines and other waste is returned to an ecocycle or is taken care of in an environmentally acceptable manner?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

Support for the reform of education systems, primary and secondary education, adult education, vocational education and higher education

- Is education on the environment a component in the education programme or education policy?

Support for the construction of buildings (schools, teachers' houses, etc) and the operation and maintenance of schools and institutions

- Consumption, production, collection and treatment of waste and chemicals (tonnes, %, description).
- Intensity of water use (% use of available water resource).
- Consumption of resources (electricity, water etc).

Institution development and capacity building

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

We distinguish between environmental impacts that are the result of physical activities such as the construction of buildings, production of materials and transports, and indirect environmental impacts that relate to the way in which the project is basically in line with sustainable development.

As a rule these types of development projects do not have a major direct impact on the environment. The list below therefore refers mostly to indirect impacts. A complete EIA should discuss these impacts and any possible measures deemed necessary. If effects are deemed irrelevant, reasons for this should be given in the EIA. To give a complete picture of the environmental impact of projects for institution development or capacity building, this checklist should be combined with the checklists for education, research and for the sector in which the activity is to be implemented. This can have the impact that checklists for infrastructure (for example building and construction works and transport) must be reviewed.



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- encourage and lead to more discussion, exchange of information, and coordination between the ministries and agencies responsible at both central and local level for the sustainable development of the sector?
- include research and/or methods development related to the environment and sustainable development?
- recommend the selection of material⁷⁴ whose negative impacts on the environment are as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the environmental impact of the project?
- include the construction of buildings or other forms of infrastructure that can have a negative impact on the environment?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

Will the project...

- lead to capacity building in the environmental field (e.g. waste management, natural resource management) for the local population and others, and thereby spread the knowledge to other parts of society?
- include education programmes on the environment and/or local knowledge of importance for environmentally sustainable development, and thereby spread the knowledge to other parts of society?
- take into consideration local knowledge systems of importance for environmentally sustainable development?
- include research and/or methods development relating to the environment and sustainable development?

74. Sida has produced guidelines for environment-friendly procurement: “Sida’s Policy for Green Procurement – for Cooperating Partners – 2002”.

- allocate special resources and give priority to capacity building of vulnerable people?

Cultural environment

Will the project...

- create awareness in the sector on the value of the cultural environment and the cultural values that are often to be found in old buildings and parks in the public administration?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

Developing indicators for institution development and capacity building is a complex task. Depending on the aims of the capacity building and/or the organisation, the list of indicators below should be combined with other relevant lists of indicators.

These are only examples of indicators. Select indicators from case to case.

Support given for capacity development and the development of methods

- Are environmental aspects (in the wide sense of the term) integrated into activities (e.g. in the form of training, campaigns, or in plans and policies)?

Operation and maintenance of institutions

- Consumption of resources (electricity, water etc).
- Degree of recycling.
- Amount of waste produced.
- Amount of hazardous waste generated.

Research

Think laterally

Consider whether different groups in society will be affected in different ways. What will the impacts be on women, men, children and the elderly, as well as social and ethnic groups?

Programmes of research support do not normally have any significant direct impacts on the environment. However, it is important that EIAs take up the extent to which research projects, in their focus and strategy, are in line with the overall goal of environmentally sustainable development. We distinguish between environmental impacts that are the result of physical activities such as the construction of buildings, production of materials and transports, and indirect environmental impacts that relate to the way in which the project is basically in line with sustainable development.

Note that the checklist of questions below only contains examples and should be supplemented with other checklists when this is relevant for the assessment of the project in question (for example institution development and capacity building, waste management and building and construction works).



Is it clearly stated in the project document or the EIA document whether – and, if so, how – the project will:

General/overall questions

Will the project...

- encourage and lead to more discussion, exchange of information, and coordination between ministries and government agencies responsible at both central and local level for sustainable development in the sector?
- include research and/or methods development related to the environment and sustainable development? Is there any special focus on strategic environmental research in, for example, health, biotechnology, agriculture and industrial applications, including research into how different sectors can both contribute to and benefit from a better environment?
- follow or contravene relevant international agreements and conventions such as the Climate Convention⁷⁵ and the Convention on Biological Diversity⁷⁶?
- recommend the selection of material⁷⁷ whose negative impacts on the environment are as small as possible?
- identify the groups of people and the ecosystems that are particularly vulnerable to the impacts of the project?
- have the impact that the development of alternative and, in the long term, more profitable (economic, social and/or environmental) methods of using the natural resources are introduced?

75. The UN Framework Convention on Climate Change, also known as the Climate Convention or UNFCCC, has the aim of stabilising emissions of greenhouse gases at a level that prevents them having hazardous effects on the climate system. In this context, greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride. The Climate Convention's official web-site is <http://unfccc.int/>.

76. The aims of the Convention on Biological Diversity are the conservation and sustainable use of biological diversity (global ecosystems, all species of plants, animals, fungi and micro-organisms and genetic variations within the species) and the fair and equitable sharing of the benefits arising from the sustainable use of genetic resources (www.biodiv.org).

77. Sida has produced guidelines for environment-friendly procurement: "Sida's Policy for Green Procurement – for Cooperating Partners – 2002".

- use environmental economic analysis for the calculation of project finances? Will the project, for example, internalise the costs of impacts on human beings and environment, such as loss of ecosystem services⁷⁸ (so-called externalities), in the total costs of the project?
- contribute to activities that only provide short-term economic gains and that do not give consideration to long-term sustainable development and the opportunities for future generations to earn a living?
- contain a component for monitoring during the implementation of the project and for control after the project has been implemented?

Human beings

- Will the project...**
- include education programmes on the environment?
 - survey and analyse the importance of local knowledge systems for environmentally sustainable development?
 - plan for the integration of local knowledge of importance for environmentally sustainable development?
 - be implemented on or beside the territory of the local population/indigenous people? If so, has formal permission been granted on terms agreed jointly (as laid down in the Convention on Biological Diversity)?

Biological diversity

- Will the project...**
- affect access to, and the equitable distribution of, genetic resources and knowledge of biological diversity⁷⁹, for example the use of local genetic resources in plant breeding?
 - lead to an increase or decrease in the risk that genetically modified organisms or genes from such organisms are spread⁸⁰?

Chemicals and waste management

- Will the project...**
- extend and improve existing waste management systems, and construct new systems for sanitation and waste management?
 - include waste that is hazardous to the environment and to health? How will the waste be handled?
 - develop methods reduce amounts of waste?
 - develop methods to ensure that any waste is returned to an ecocycle or is taken care of in an environmentally acceptable manner?

78. Ecosystem services can be described as all the services performed by nature that can be regarded as advantageous for human society. Services of this type are, for example, production of food, stabilisation of climate, ecocycle of nutrients, water purification and the breakdown of pollutants.

79. If this is the case, is a description provided of relations to local, national and international agreements and legislation on biological diversity? Is there, for example, national and local approval of the extraction of genetic material as laid down in the Convention on Biological Diversity (www.biodiv.org), i.e. that stakeholders such as indigenous populations and local farmers are aware of and have approved extractions (Prior Informed Consent, PIC) and that this has taken place through agreements based on mutually agreed terms (Mutual Agreed Terms, MAT)? Is there a guarantee that genetic resources will not be exploited without agreements of this kind?

80. If this is the case, is a description provided of relations to local, national and international agreements and legislation on biosafety? Are there, for example, effective national legislation and control mechanisms in respect of biosafety? Do these follow the Biosafety Protocol (www.biodiv.org/biosafety/) under the Convention on Biological Diversity? Effective legislation and mechanisms for biosafety should be in place before Sida finances GMO contributions.

- contribute to increasing the use of chemicals that are toxic, not easily degradable and/or bio accumulating?
- contribute to a situation in which untrained personnel handle chemicals and/or hazardous waste, or will it contribute to training personnel in chemicals and/or waste management and providing them with protective equipment and suitable facilities for the storage of chemicals and waste?

If there are indications of impacts on the environment: are there, in such cases, proposals for measures to be taken that will reduce negative impacts on the environment and/or optimise positive impacts?

Indicators

These are only examples of indicators. Select indicators from case to case.

Support given for capacity building and the development of institutions

- Are environmental aspects (in the wide sense of the term) integrated into activities (e.g. in the form of education and training, or in plans and policies)?
- Are strategic environmental components included in research programmes and are they monitored?
- Do research projects contain one or more environmental components?

Operation and maintenance of institutions

- Consumption of resources (electricity, water etc).
- Degree of recycling.
- Amount of hazardous waste generated.

Appendix 2 – Explanations of certain terms

Scoping

Limiting the EIA so that it focuses on key areas for decision-makers, identifies groups of stakeholders etc. The scoping process results in terms of reference for the EIA.

Screening

Assessment of whether an EIA is required for a certain project proposal (not applicable in the Sida EIA process since an EIA shall always be made).

Review

Critical examination and assessment of an EIA and its conclusions and recommendations. In the EIA process it is important to distinguish between Sida's review of the EIA and the project owner's review of the EIA.

Indicator

An indicator is a tool for good EIA and project management. It provides comprehensive information that can characterise systems or clarify developments in a system. Indicators should be able to indicate whether the project is leading to an improvement in the environment or a deterioration in the environment and, as far as possible, if it is contributing to sustainable development.

Zero alternative

A description of how the future could be imagined if Sida chooses not to provide support for the planned activity (i.e. the environmental impacts of expected developments in the project area if the project is not implemented).

LFA

Logical framework approach, an aid in project preparation and assessment. In Sida's view LFA should be used to create agreement and clarity in respect of the project proposal rather than for detailed planning and control. The conclusions of the EIA process shall be included in Sida's LFA analysis.

Environmental economic analysis

Analysis of the expected environmental impact of the project from the economic perspective.

Environmental analysis

An analysis that is made in connection with drawing up the country strategy. It shall capture issues that are of central importance for the country's development from the sustainability perspective.

EIA

Environmental impact assessment. Internationally the definition of what an EIA should encompass varies. The term "environmental assessment" is also used.

Extended EIA

A relatively in-depth examination of the proposed project's expected impact on the environment and alternative solutions. An extended EIA shall be made if it is suspected that the proposed project, on account of its size or focus, can have a significant impact on the environment.

Project

Generic term for planned actions, activities, programmes etc, for which support in one form or another is sought from Sida.

Project owner

The organisation that requests support for its project and which is responsible for the planning and implementation of the project. The project owner can be, for example, a government agency, a voluntary organisation, an enterprise or a research institution.

Strategic environmental assessment (SEA)

An environmental assessment of the decisions that lie at the overall level, i.e. in respect of policies, plans and programmes, including sector support and regional contributions.

CBO

Community-based organisation.

EIS

Environmental impact statement, which is the document (final report) on the EIA. (American term.)

NGO

Non-governmental organisation.

Appendix 3 – Further reading and links

- Dalal-Clayton D.B. & Sadler B. 1999. *Strategic Environmental Assessment: A Rapidly Evolving Approach*. Environmental Planning Issues No.18, International Institute for Environment and Development, London.
- Danida. 1999. *Environmental Assessment for Sustainable Development*. Copenhagen.
- Danida. 1999. *Manual for Output and Outcome Indicator System*. Copenhagen.
- EU directive on EIA (EU's directive on the assessment of effects on the environment of certain public and private projects 85/337/EEC of 1987 with amendments and additions 11/97/EC of 1999).
- EU-directive on the assessment of the environmental effects of certain plans and programmes 2001/42/EC.
- Glasson, J. Therivel, R & Chadwick, A. 1998. *Introduction to Environmental Impact Assessment*. 2nd ed. UCL Press. Philadelphia.
- IIED. 1998. *A Directory of Impact Assessment*. 2nd ed.
- NORAD. 1988–1996. Environmental Impacts Assessment (EIA) of Development Aid Projects.
- OECD. 1992. Development Assistance Committee: *Guidelines on Environment and Aid*, No1. Good Practices for Environmental Impact Assessment of Development Projects. OECD Paris.
- OECD/UNEP. 2002. *Sustainable Development Strategies: A Resource Book*. www.nssd.net/index1.html
- UNEP. 2002. *EIA Training Resource Manual*, www.ea.gov.au/assessments/eianet/unespmanual/index.html
- World Bank. 1991. *Environmental Assessment Sourcebook*. Volume I, II and III. Technical Paper No 139, 140 and 154. Washington.
- World Bank. 1996. *Environmental Performance Monitoring and Supervision*. Environment Department, Washington.

Documents produced by Sida

- Sector Programmes – Guidelines for the Dialogue on Strategic Environmental Assessment (SEA) – May 2002
- The Country Strategies – Guidelines for Strategic Environmental and Sustainability Analysis – April 2002
- Indicators for Environmental Monitoring in International Development Cooperation – June 2002
- The Environment and Poverty – June 2001
- Health and Environment – Issue Paper Health Division 2001:2
- Growth and the Environment – February 2000
- The Environment and Human Rights – relationships and conflicts – March 2001
- Policy for Environmental Education and Education for Sustainability
- Sida's Energy Policy – April 1996
- Sida's Policy for Green Procurement – for Cooperating Partners – 2002
- Trade, Environment and Development Co-operation – April 1998
- Sida and the Convention on Biological Diversity – March 1998, Updated April 2000

Sida's help-desks

Sida's EIA help-desk (EIA centre – Swedish University of Agricultural Sciences, Uppsala): sida-mkbhelp@slu.se,

Sida's help-desk for the environmental analysis of country strategies (Environmental Economics Unit at Gothenburg University): anders.ekbom@economics.gu.se

Links

EIA centre – EIA centre – Swedish University of Agricultural Sciences, Uppsala: www-mkb.slu.se (click on “links”)

ANSEA – Analytical Strategic Environmental Assessment: www.taugroup.com/ansea

IAIA – International Association for Impact Assessment: www.iaia.org

DFID – Department for International Development (Great Britain): www.dfid.gov.uk/

Elsevier Science, publishes the periodical “Environmental Impact Assessment Review” and other literature in the field: www.elsevier.com/locate/jnlmr/07643

European Union: europa.eu.int/comm/environment/eia/home.htm

Health Impact Assessment Database: www.hiadatabase.net/

SEI – Stockholm Environment Institute: www.sei.se

United Nation Environmental Programme:

www.unep.orgwww.unep.ch/etu/publications/index.htm

World Bank: www.worldbank.org

lnweb18.worldbank.org/ESSD/essdext.nsf/47ByDocName/

EnvironmentalAssessment (environmental department)

lnweb18.worldbank.org/ESSD/essdext.nsf/41ByDocName/Environment (info om MKB)

Regional links

ADB – Asian Development Bank: www.adb.org/scripts/rwisapi.dll/@adb.env

CLEIAA – Capacity Development and Linkages for Environmental Impact

Assessment in Africa: www.cleiaa.org

CSIR, South Africa (SEA Primer): fred.csir.co.za/www/sea/primer/primerf.htm

EAAIA – Eastern African Association for Impact Assessment: EAAIA@iucnearo.org

IADB – Inter-American Development Bank: www.iadb.org/sds/

SAIEA – Southern African Institute for Environmental Assessment: www.saiea.com/

Newsletters

Environment & Development Challenges – EDC News:

www.padrigu.gu.se/EDCNews

Sustainable Development Update: www.albaeco.com/sdu/newsletter.htm

The newsletters can also be reached via www.sida.se

Environmental impact assessments, EIAs, are made to analyse how the environment will be affected by proposed development projects and how the projects can contribute to sustainable development in the best possible way.

EIAs shall be made for all projects and programmes supported by Sida.

Three important factors to bear in mind:

1. All Sida's contributions shall include an EIA.
2. Flexibility is maximal – the EIA shall be adapted to the contribution.
3. Both positive and negative environmental aspects shall be taken into consideration.

The responsibility for making the EIA rests with the project owner. Sida's role is to review the EIAs made by project owners, to explain the role of EIAs to project owners, and to describe the requirements laid down by Sida in respect of EIAs.

These guidelines have been prepared for programme officers at Sida and are intended to facilitate each phase in the making of EIAs. The guidelines are also intended for use by project owners and consultants as an aid in their production of EIAs for development projects.

Sida's Environment Policy Division can answer questions and provide advice on the EIA process. Sida has also engaged a help-desk for EIAs that programme officers at Sida in Stockholm and at the embassies can turn to directly in order to obtain assistance with:

- reviews of EIAs received
- assessments of whether EIAs are adequate
- terms of reference for EIAs, and
- assistance in finding information or experts in the EIA field.



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